

INDEX OF SHEETS

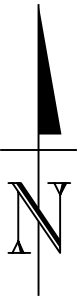
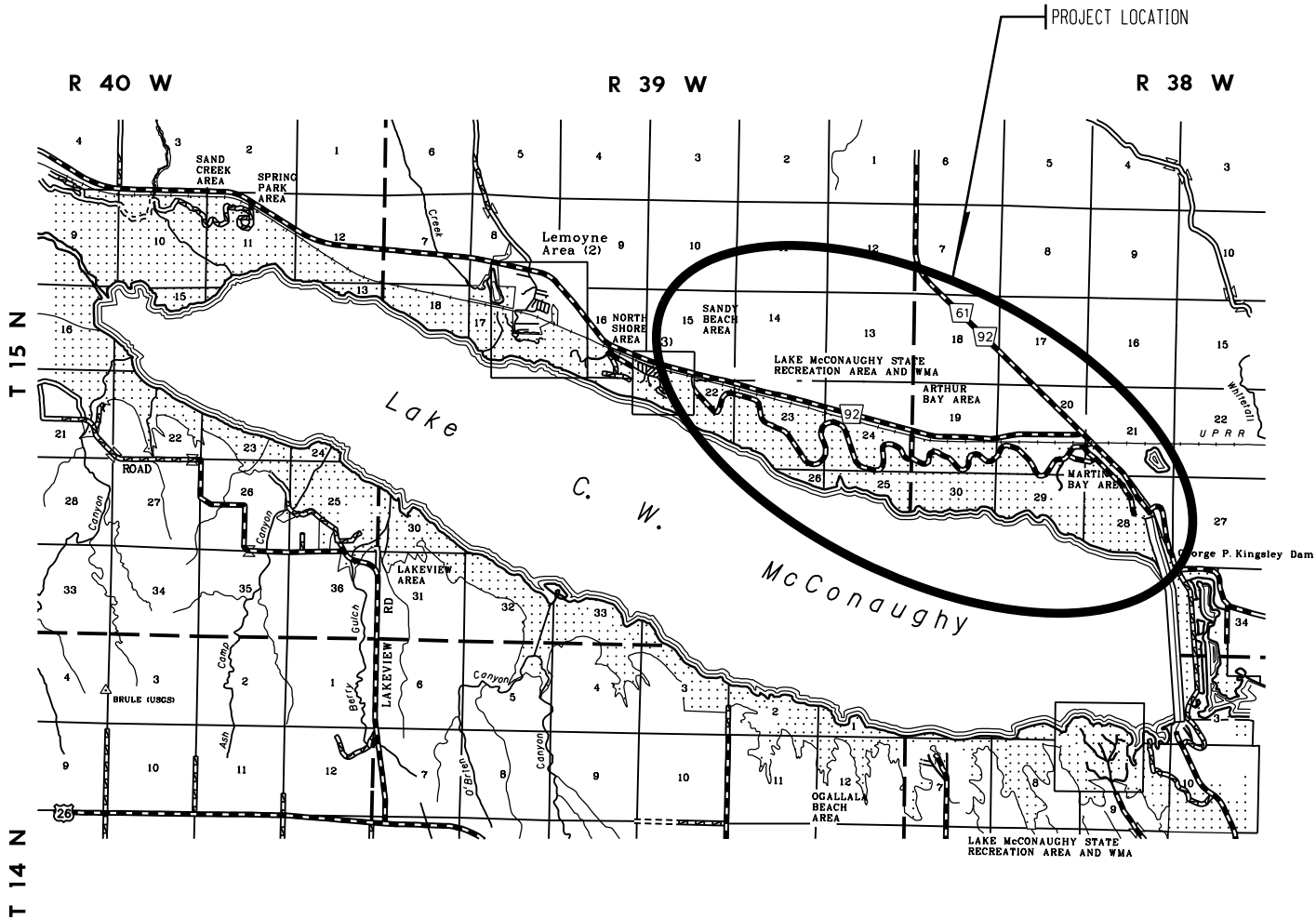
SHEET NO.

| | |
|----------|------------------------|
| A1 | TITLE PAGE |
| B1 - B2 | TYPICAL CROSS SECTIONS |
| C1 | SUMMARY OF QUANTITIES |
| G1 - G2 | GENERAL INFORMATION |
| J1 - J12 | PLAN SHEETS |

STANDARD PLANS

| | |
|---------|--|
| 920-R7 | (3 SHEETS) TRAFFIC CONTROL, CONSTRUCTION AND MAINTENANCE |
| 921-R8 | (2 SHEETS) TRAFFIC CONTROL, CONSTRUCTION AND MAINTENANCE |
| 922-R11 | (2 SHEETS) TRAFFIC CONTROL FOR ASPHALT SURFACING |
| 941 | (2 SHEETS) PAVEMENT MARKING |

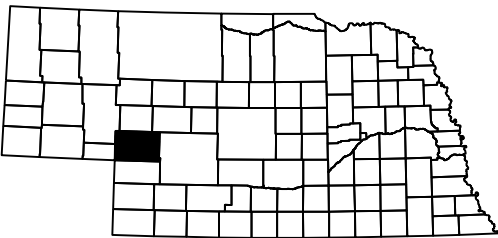
STATE OF NEBRASKA
DEPARTMENT OF TRANSPORTATION
PLANS FOR CONSTRUCTION
LAKE McCONAUGHY
KEITH COUNTY



THE 2017 EDITION OF THE NEBRASKA STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS APPLY TO THIS PROJECT.

THE WORK ON THIS PROJECT CONSISTS OF GROUPS 9-BITUMINOUS & 10-GENERAL

| | | |
|---------------------------------|--------|--------------|
| ▲ GROUPS | 9 & 10 | ARE INCLUDED |
| IN THE LETTING OF JULY 25, 2019 | | |
| ▲ GROUPS | | ARE INCLUDED |
| IN THE LETTING OF | | |
| ■ GROUPS | | ARE INCLUDED |
| IN THE LETTING OF | | |



| | |
|--|---|
| | Project Raw Materials (Tons) |
| | 19,300 |
| | Post Consumer Recycle Content in Project Raw Materials (Tons) |
| | 6,143 |
| | Post Consumer Recycle Content |
| | 32% |
| | Estimated Value of Post Consumer Content Recycled |
| | \$246,694 |

CONVENTIONAL SIGNS

| | |
|----------------------|------------------|
| FENCE R.O.W. OR WIRE | — x — x — x — |
| GUARDRAIL | — / — / — / — / |
| TRAVELED WAY | == == == == |
| DIKE | xxxxxxxxxxxxxxxx |
| CULVERT | — x — x — x — |
| POWER POLE | ■ |
| TELEPHONE POLE | ◆ |
| MAILBOX | □ |
| RAILROAD TRACKS | — x — x — x — |
| MARSH | |
| TREE - CONIFEROUS | ● |
| TREE - DECIDUOUS | ○ |

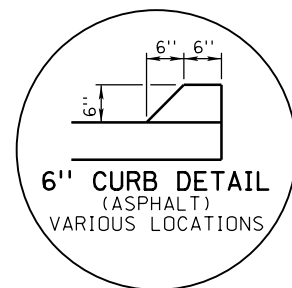
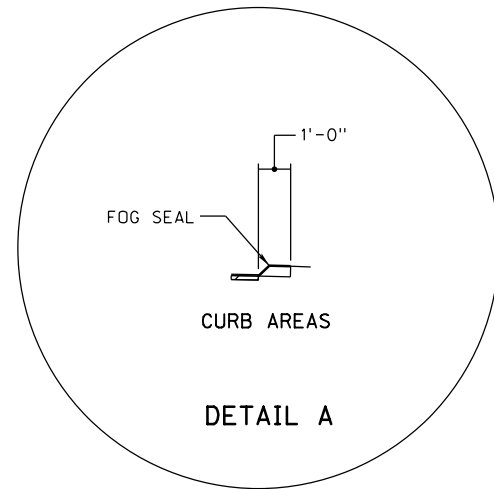
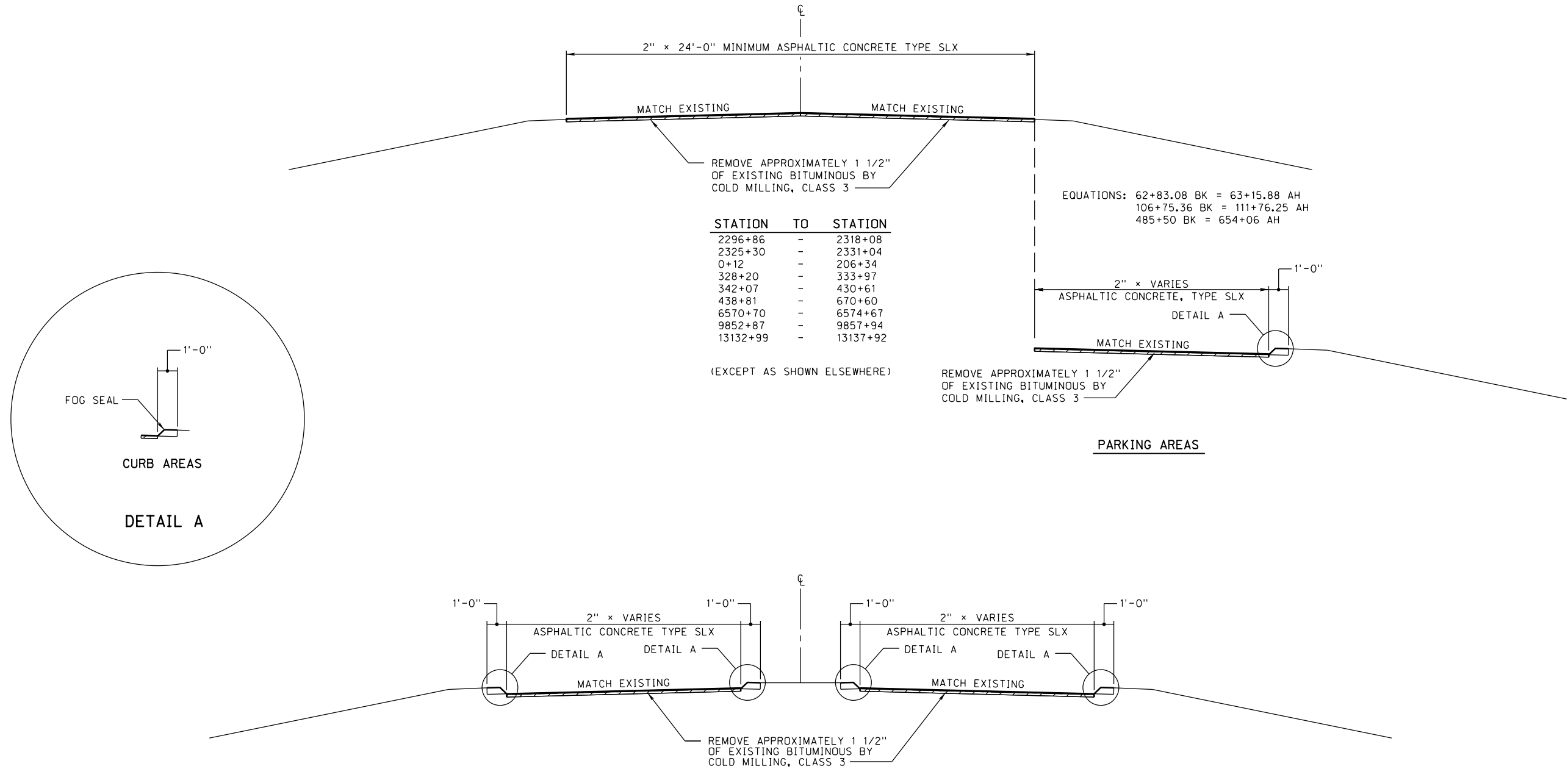
R.O.W. LEGEND

| | |
|---------------------------------|------------------|
| NEW CONTROLLED ACCESS | — x — x — x — |
| PREVIOUS CONTROLLED ACCESS | — / — / — / — / |
| LIMITS OF CONSTRUCTION | == == == == |
| PREVIOUS R.O.W. | xxxxxxxxxxxxxxxx |
| NEW R.O.W. | — x — x — x — |
| EXISTING PERMANENT EASEMENT | ■ |
| TEMPORARY EASEMENT | ◆ |
| EXCESS TAKING | □ |
| PERMANENT EASEMENT | — x — x — x — |
| EXISTING RAILROAD EASEMENT | — x — x — x — |
| NEW RAILROAD PERMANENT EASEMENT | — x — x — x — |
| NEW RAILROAD TEMPORARY EASEMENT | — x — x — x — |

| | |
|------------------------------|-----------------------|
| REFERENCE POST NO. | TO REFERENCE POST NO. |
| EXCEPTIONS: FROM STA. | TO STA. |
| TOTAL NET LENGTH OF PROJECT: | FEET MILES |



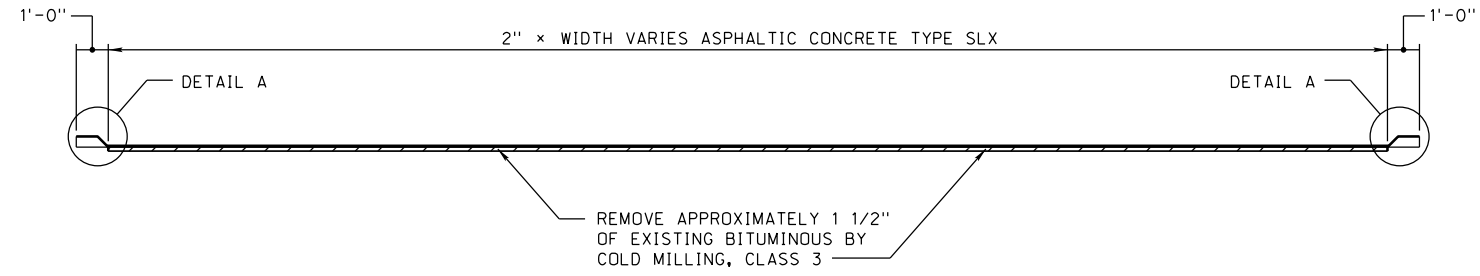
TYPICAL CROSS SECTIONS



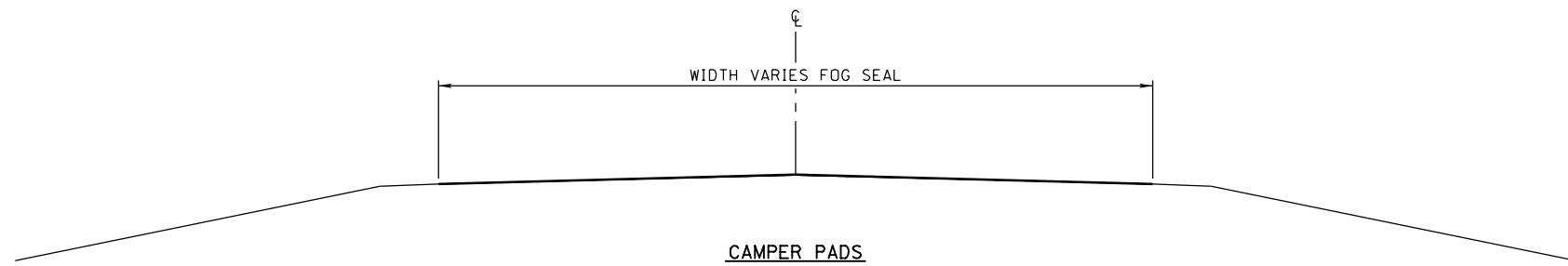
2318+08 - 2325+30 SANDY BEACH KIOSK-LANES EACH DIRECTION & PARKING
333+97 - 342+07 ARTHUR BAY KIOSK - LANES EACH DIRECTION & PARKING (EXCEPTION: DUMP STATION)
430+61 - 438+81 NORTH NO NAME BAY BEACH ACCESS-LANES EACH DIRECTION (EXCEPTION: PARKING AREA)

TYPICAL CROSS SECTIONS

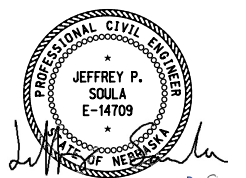
| PROJECT NO. | SHEET NO. |
|-------------|-----------|
| SRR-51(61) | B2 |
| C.N. 61651 | |



SANDY BEACH PARKING
LONE EAGLE DUMP STATION
ARTHUR BAY SHOWER PARKING
EAST ARTHUR BAY PARKING
MARTIN BAY BEACH ACCESS #6
EXCEPTION: MARTIN BAY BEACH ACCESS #5 PARKING AREA



LONE EAGLE CAMPGROUND-ROADWAY & CAMPER PADS
LITTLE THUNDER CAMPGROUND-ROADWAY & CAMPER PADS



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SUMMARY OF QUANTITIES

| | |
|-------------|-----------|
| PROJECT NO. | SHEET NO. |
| SRR-51(61) | C1 |

C.N. 61651

BITUMINOUS ITEMS GROUP 9

| ITEM | QUANTITY | UNITS |
|---|------------|-------|
| PERMANENT PAVEMENT MARKING, PAINT | 82,000.000 | LF |
| MOBILIZATION | 1.000 | LS |
| HYDRATED LIME/WARM MIX ASPHALT | 19,300.000 | EACH |
| ASPHALTIC CONCRETE, TYPE SLX | 16,700.000 | TON |
| PLACEMENT OF ASPHALTIC CONCRETE FOR DRIVEWAYS AND INTERSECTIONS | 3,585.000 | SY |
| ASPHALTIC CONCRETE FOR PATCHING, TYPE SLX | 2,600.000 | TON |
| PERFORMANCE GRADED BINDER (58V-34) | 810.600 | TON |
| CONSTRUCTING ASPHALTIC CONCRETE CURB | 3,000.000 | LF |
| TACK COAT | 22,770.000 | GAL |
| FOG SEAL | 3,320.000 | GAL |
| COLD MILLING, CLASS 3 | 555.008 | STA |
| COLD MILLING, CLASS 5 | 3,585.000 | SY |
| RAP INCENTIVE PAYMENT | 32,810.000 | EACH |
| ASPHALT PAVEMENT SMOOTHNESS TESTING | 1.000 | LS |

| TYPES OF ASPHALTIC OIL TO BE USED |
|--|
| TACK COAT: SS-1, SS-1H, CSS-1, CSS-1H, CFS-1, FS-1 FOG SEAL: SS-1H, CSS-1H, CFS-1 OR FS-1 |
| PERFORMANCE GRADED BINDER |
| AASHTO DESIGNATION M332 |

GENERAL ITEMS GROUP 10

| ITEM | QUANTITY | UNITS |
|---|-----------|-------|
| BARRICADE, TYPE II | 5,250.000 | BDAY |
| BARRICADE, TYPE III | 204.000 | BDAY |
| TEMPORARY SIGN DAY | 840.000 | EACH |
| SIGN DAY | 1,700.000 | EACH |
| FLAGGING | 70.000 | DAY |
| TRAFFIC CONTROL MANAGEMENT | 68.000 | DAY |
| FIELD OFFICE | 1.000 | EACH |
| TRAINING | 100.000 | HOUR |
| MOBILIZATION | 1.000 | LS |
| CONSTRUCTION STAKING | 1.000 | LS |
| RENTAL OF LOADER, FULLY OPERATED | 50.000 | HOUR |
| RENTAL OF MOTOR GRADER, FULLY OPERATED | 50.000 | HOUR |
| RENTAL OF DUMP TRUCK, FULLY OPERATED | 50.000 | HOUR |
| RENTAL OF SKID LOADER, FULLY OPERATED | 150.000 | HOUR |
| ENVIRONMENTAL COMMITMENTS - CONTRACTOR COMPLIANCE | 1.000 | LS |



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GENERAL INFORMATION

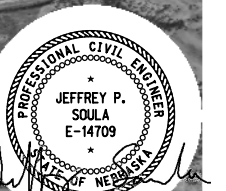
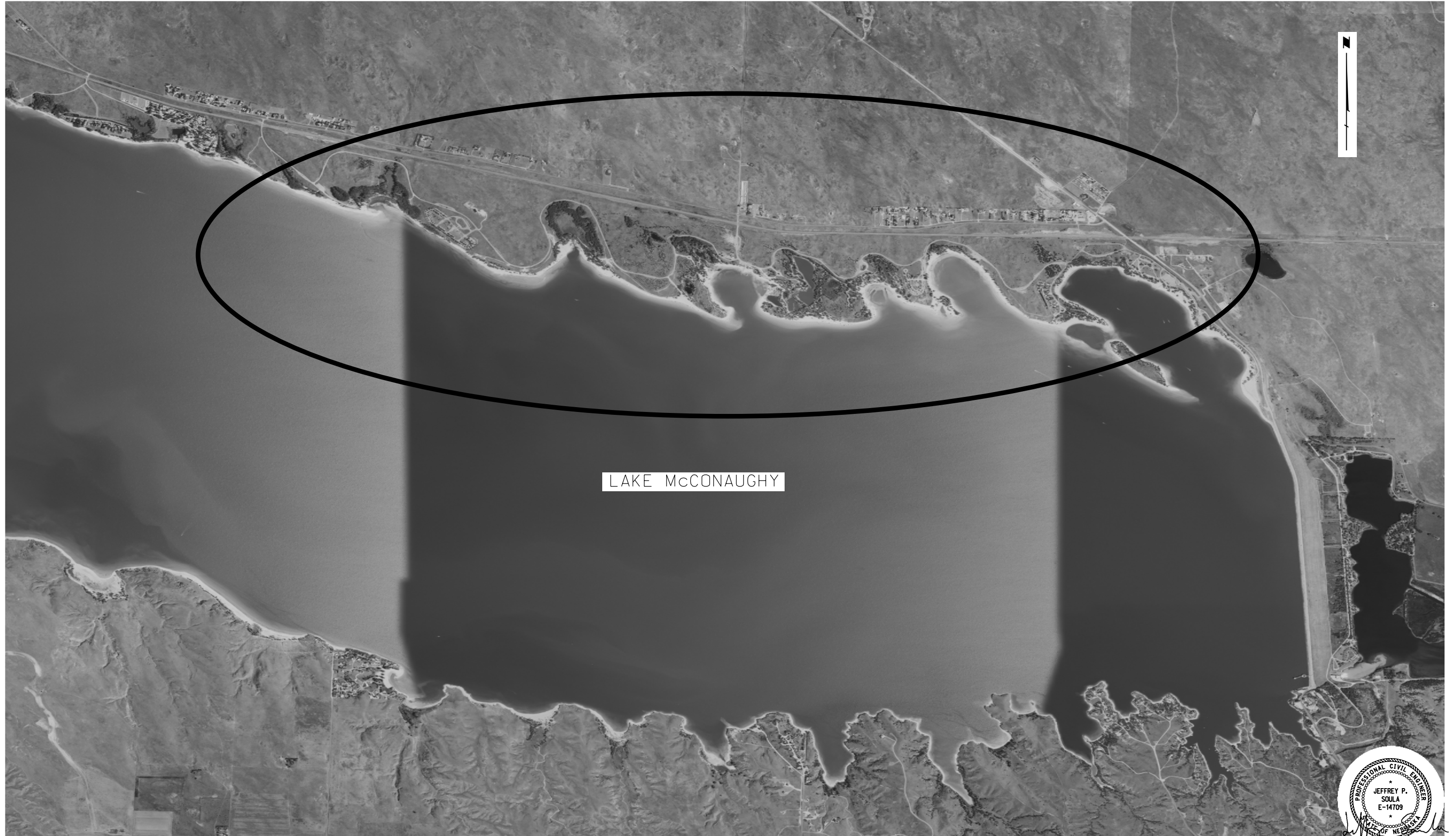
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| PROJECT NO. | SHEET NO. |
| SRR-51(61) | G1 |
| C.N. 61651 | |

ROADWAY DESIGN DIVISION

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Date: 30-MAY-2019 11:21

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Scale: 1:200



May 30 2019

ROADWAY DESIGN DIVISION

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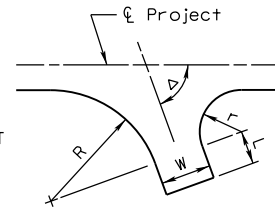
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| PROJECT NO. | SHEET NO. |
| SRR-51(61) | G2 |
| C.N. 61651 | |

NOTES

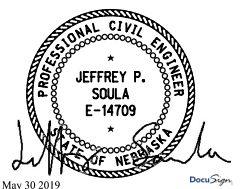
- The locations of all aerial and underground utility facilities may not be indicated in these plans. Underground utilities, whether indicated or not will be located and flagged by the Utilities at the request of the Contractor.

No excavation will be permitted in the area of underground utility facilities until all such facilities have been located and identified to the satisfaction of all parties. The excavation must be accomplished with extreme care in order to avoid any possibility of damage to the utility facility.

2" ASPHALTIC CONCRETE PAVEMENT
ON MILLED SURFACE.



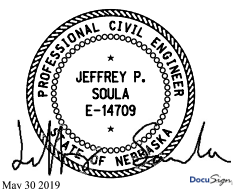
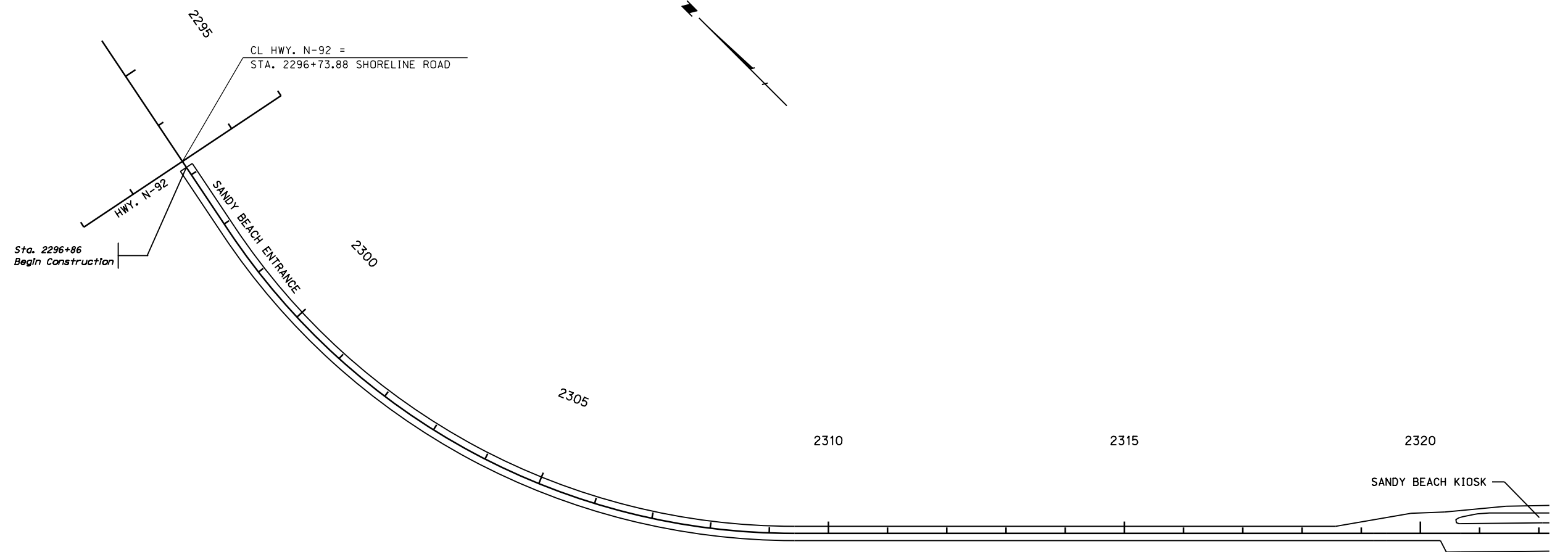
| SUMMARY OF QUANTITIES AND LOCATION OF SURFACED INTERSECTIONS | | | | | | | | | |
|--|------|---------------|------|------------|-------------|-----------------------------------|-----------------------|-------------------------------|--|
| STATION | SIDE | RETURN RADIUS | | WIDTH W | LENGTH L | INTERSECTION ANGLE Δ | PLACEMENT SQ. YDS. | ASPHALTIC CONCRETE TONS | 2" COLD MILLING, CLASS 5 SQ. YDS. |
| | | R | r | | | | | | |
| | | FEET | FEET | | | | | | |
| 66+40 | Rt. | 82 | 82 | 26 | - | 82 | 613 | 67 | 613 |
| 103+02 | Rt. | 48 | 48 | 26 | - | 90 | 249 | 27 | 249 |
| 151+08 | Rt. | 48 | 48 | 26 | - | 90 | 249 | 27 | 249 |
| 412+35 | Rt. | 82 | 82 | 24 | - | 90 | 539 | 59 | 539 |
| 469+40 | Rt. | 82 | 82 | 26 | - | 90 | 558 | 61 | 558 |
| 476+11 | Rt. | 82 | 82 | 23 | - | 90 | 530 | 58 | 530 |
| 657+93 | Rt. | 82 | 115 | 28 | - | 89 | 847 | 93 | 847 |



May 30 2019

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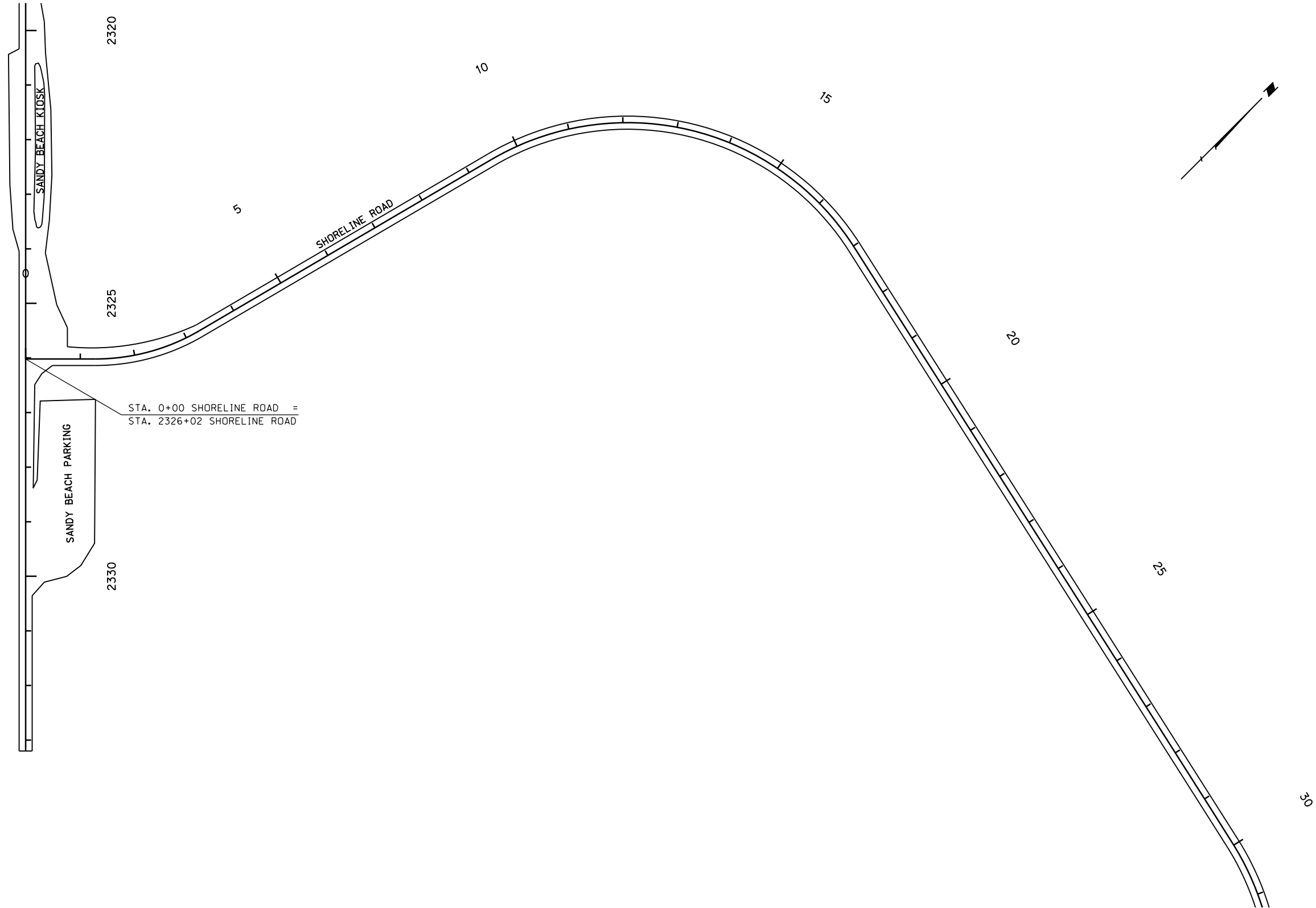
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| SRR-51(61) | J1 |
| C.N. 61651 | |



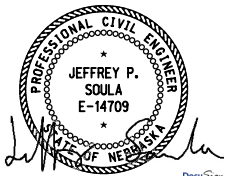
May 30 2019

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PLAN



| PROJECT NO. | SHEET NO. |
|-------------|-----------|
| SRR-51(61) | J2 |
| C.N. 61651 | |



May 30 2019

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PLAN

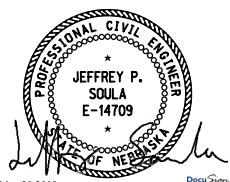
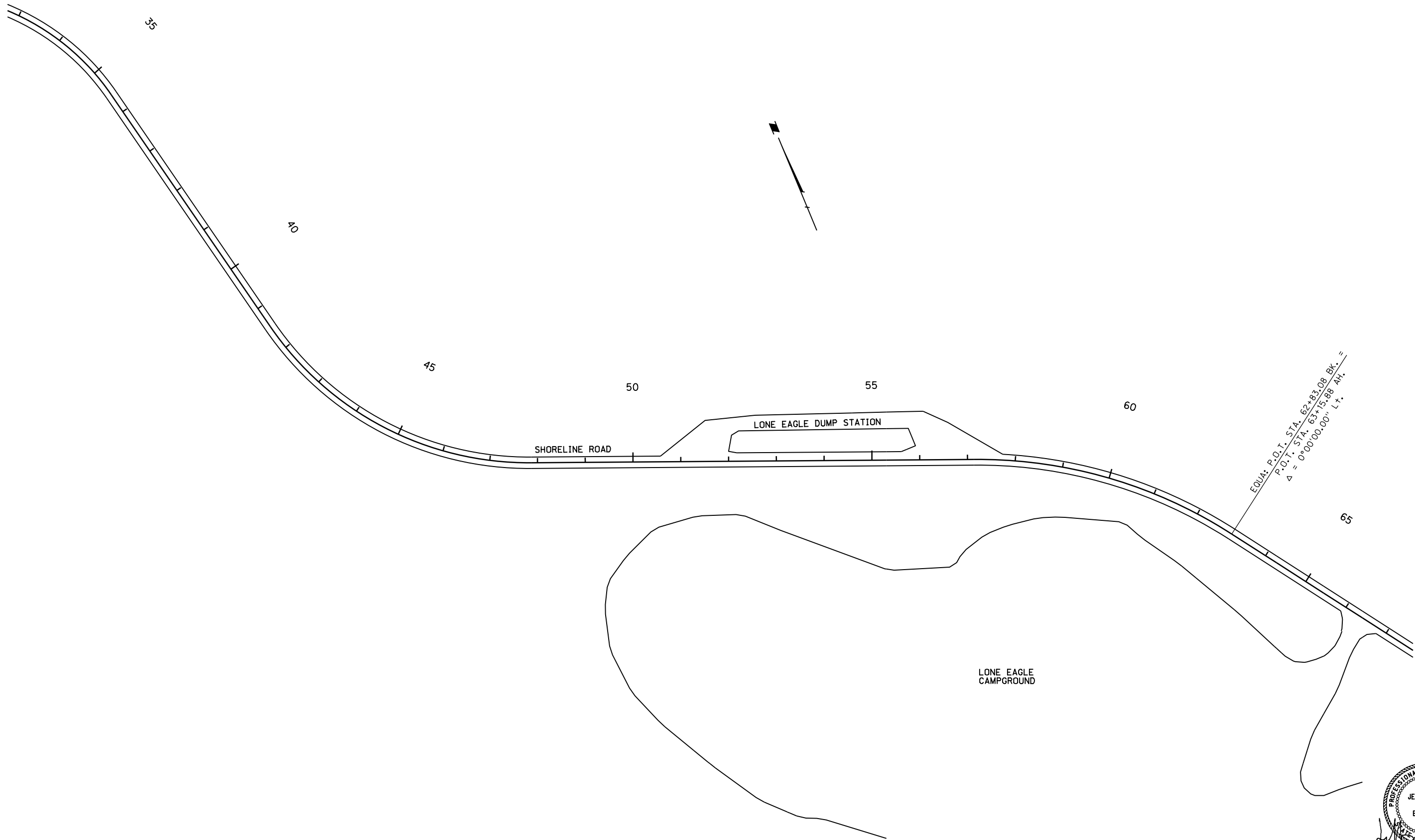
ROADWAY DESIGN DIVISION

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| SRR-51(61) | J3 |
| C.N. 61651 | |

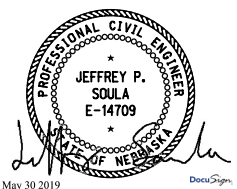
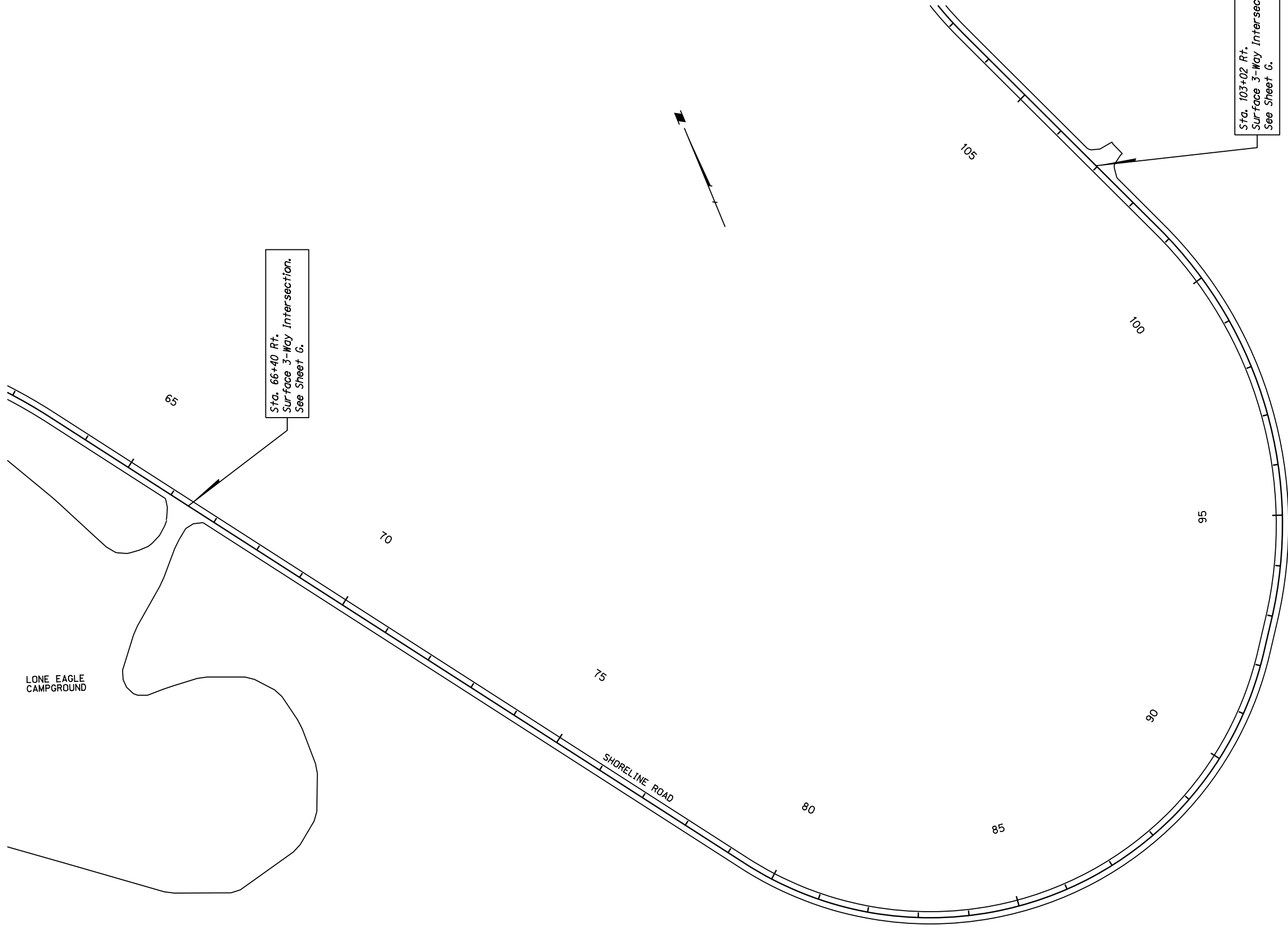


May 30 2019

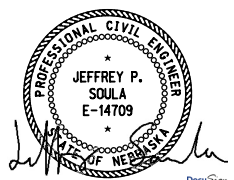
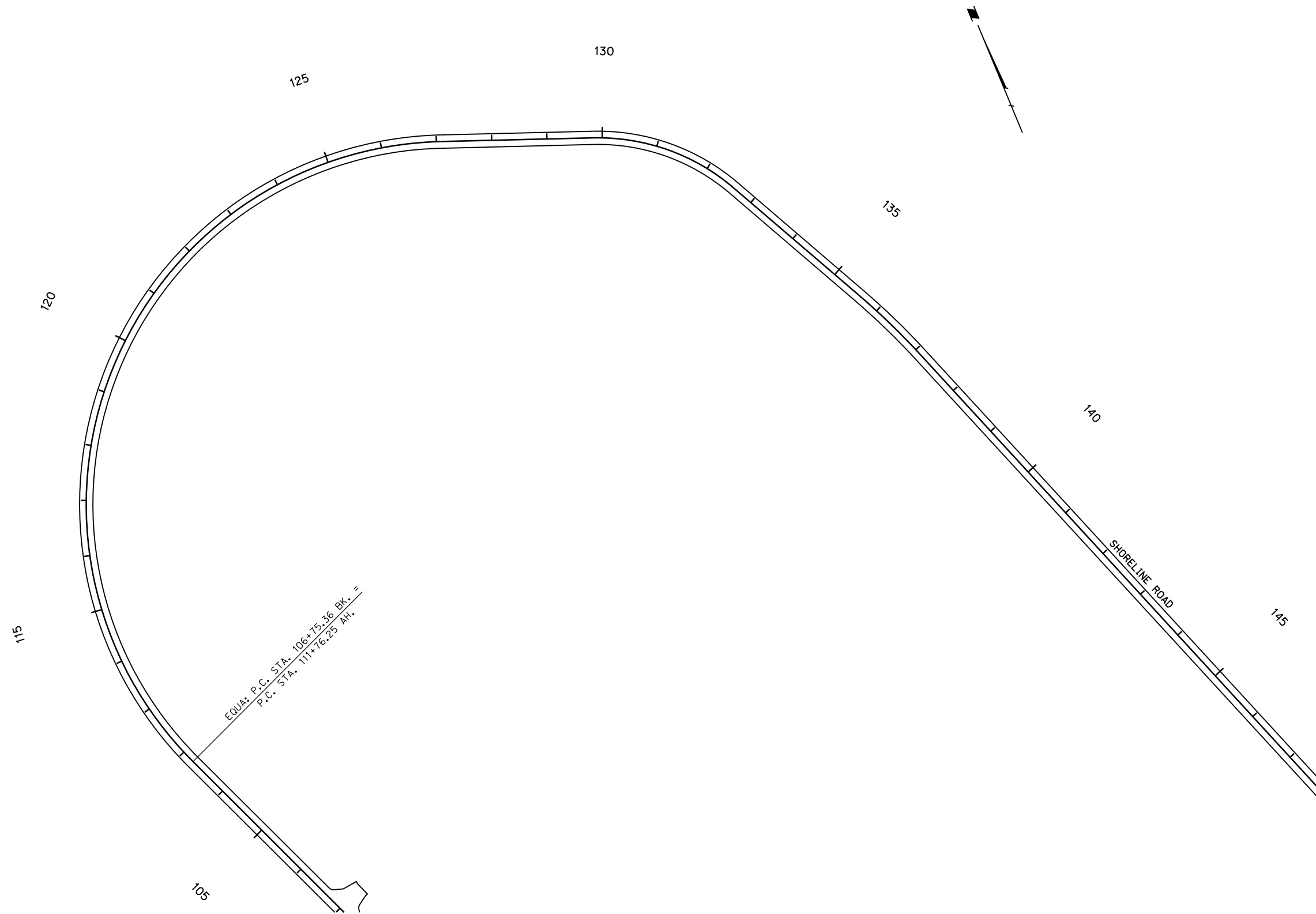
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PLAN

| PROJECT NO. | SHEET NO. |
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| SRR-51(61) | J4 |
| C.N. 61651 | |



| PROJECT NO. | SHEET NO. |
|-------------|-----------|
| SRR-51(61) | J5 |
| C.N. 61651 | |

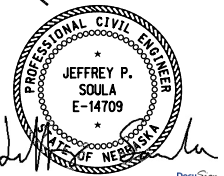
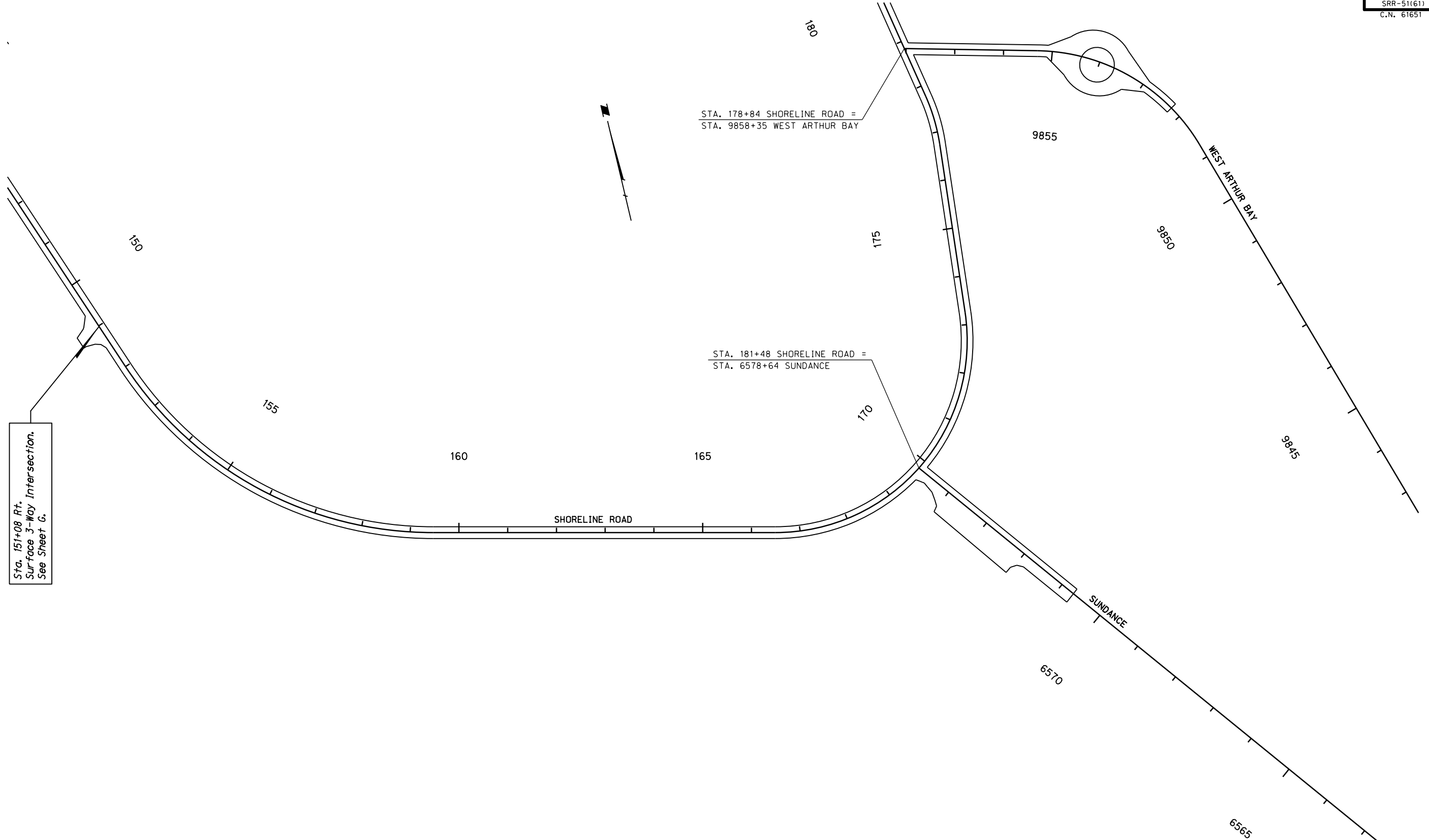


May 30 2019

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PLAN

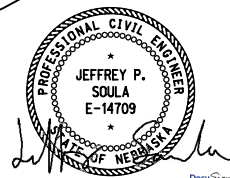
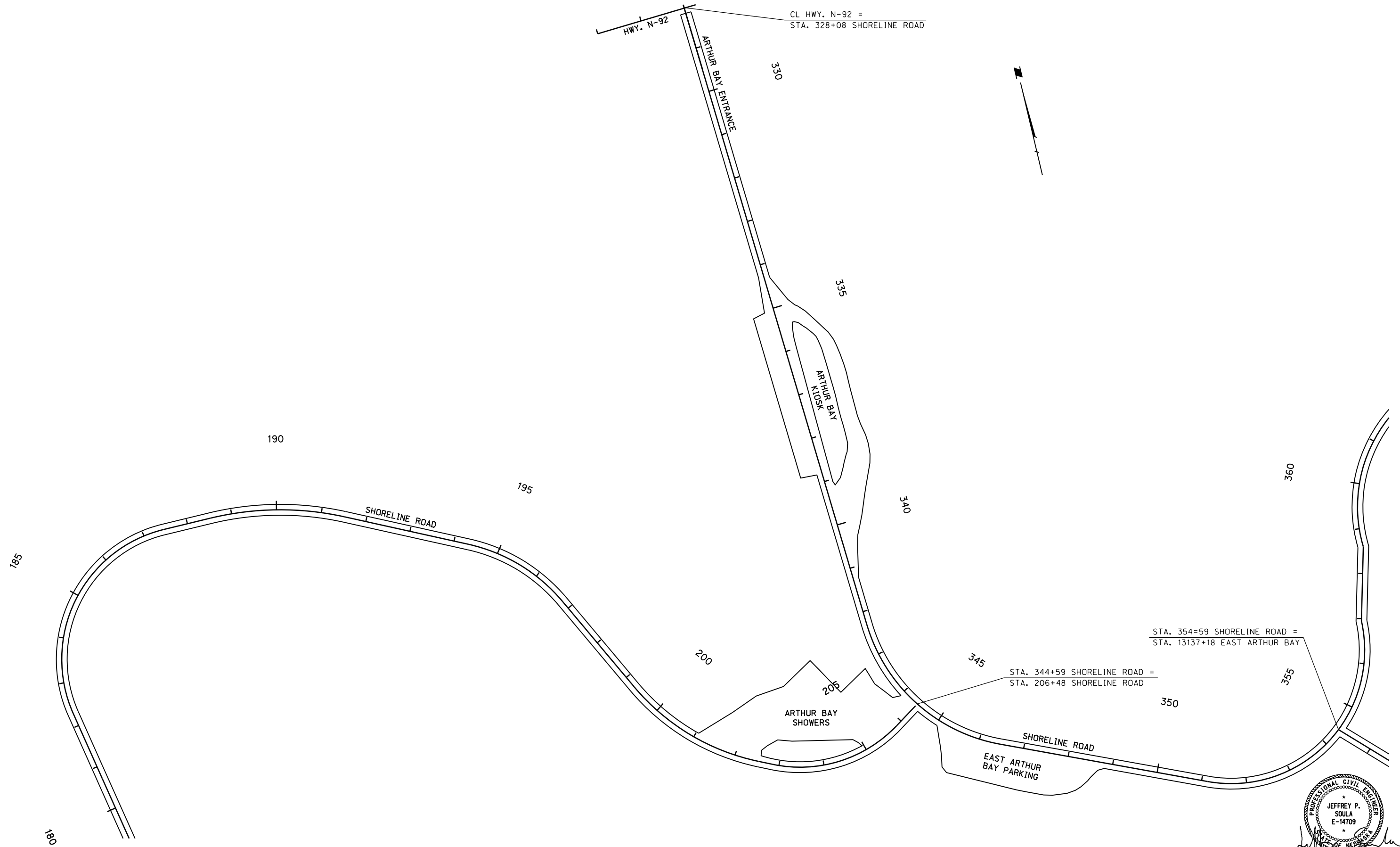
Sta. 151+08 Rt.
Surface 3-Way Intersection.
See Sheet G.



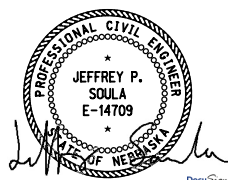
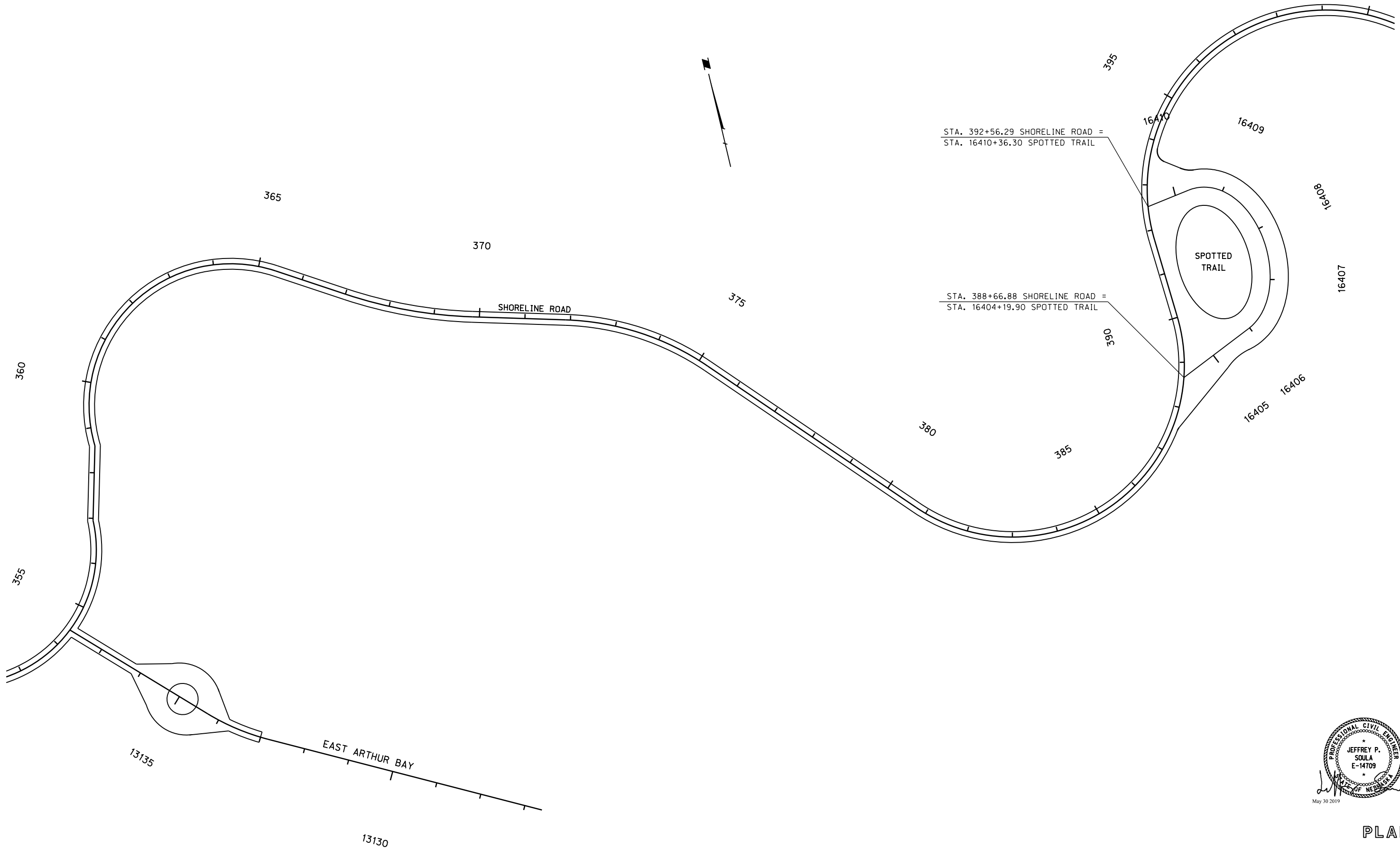
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| SRR-51(61) | J7 |
| C.N. 61651 | |

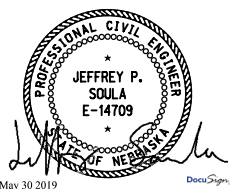
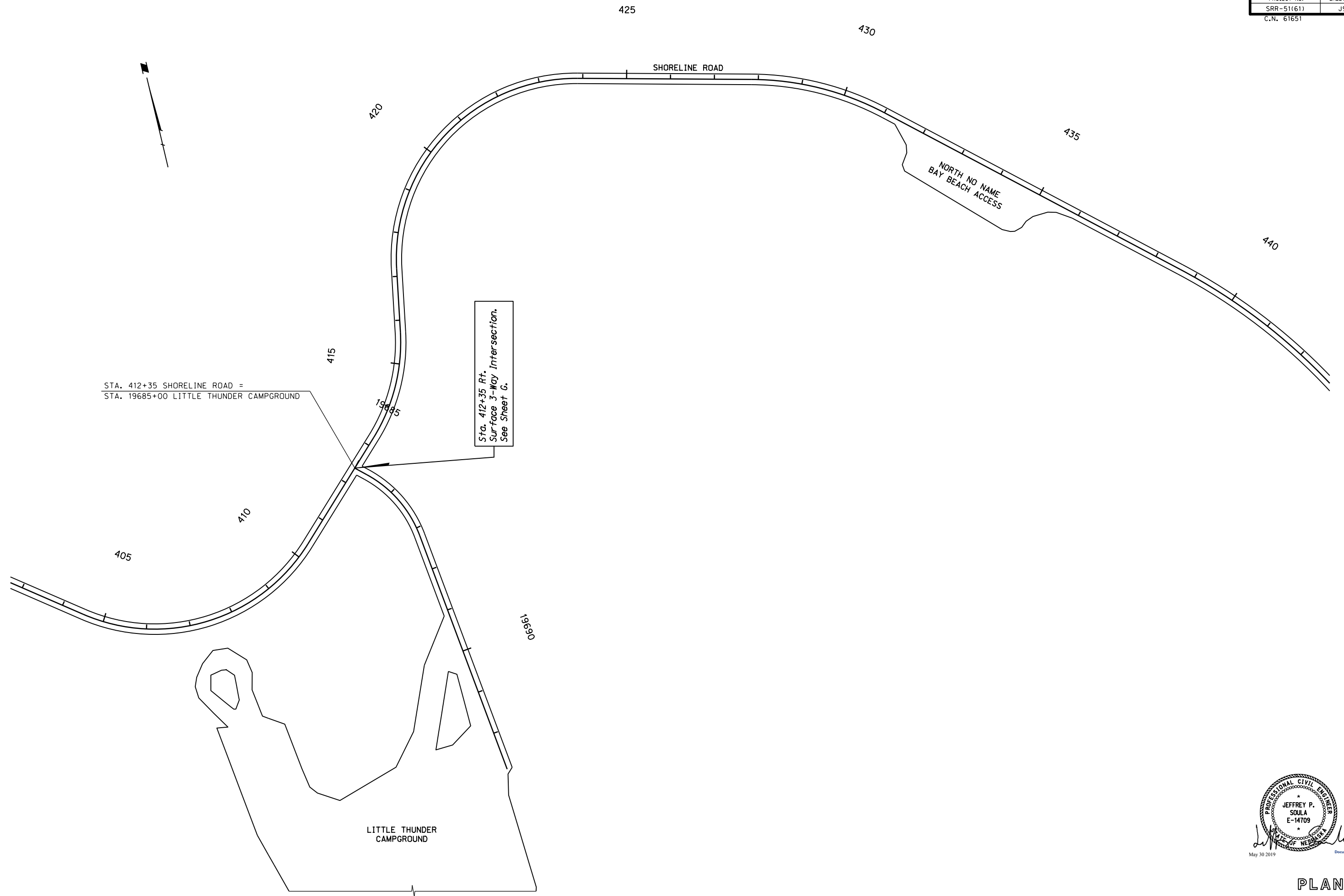


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May 30 2019

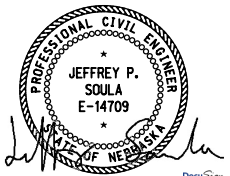
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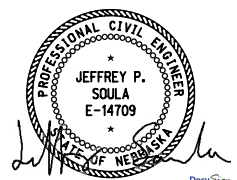
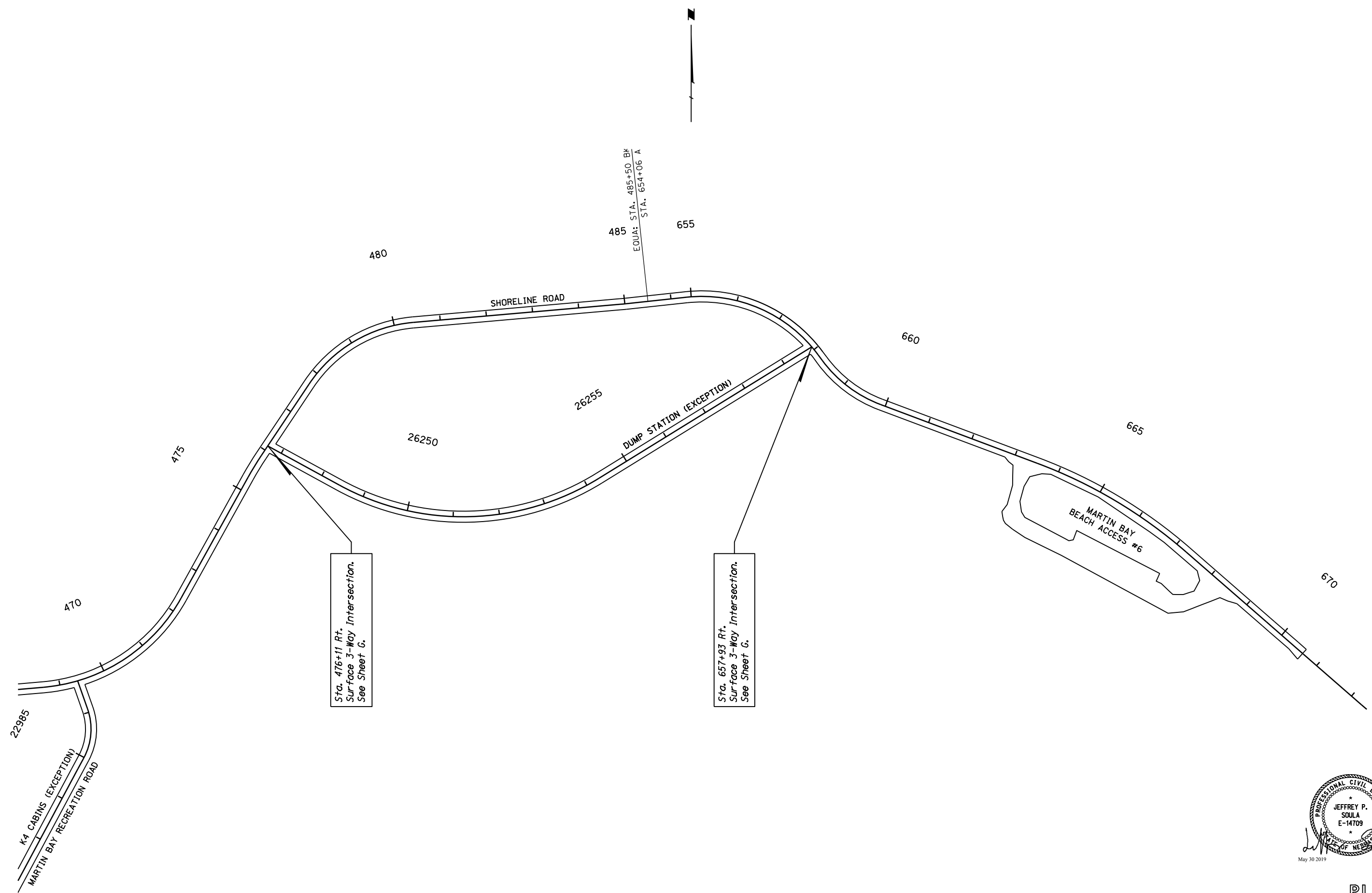


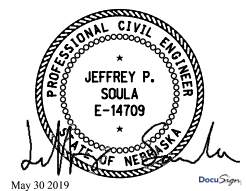
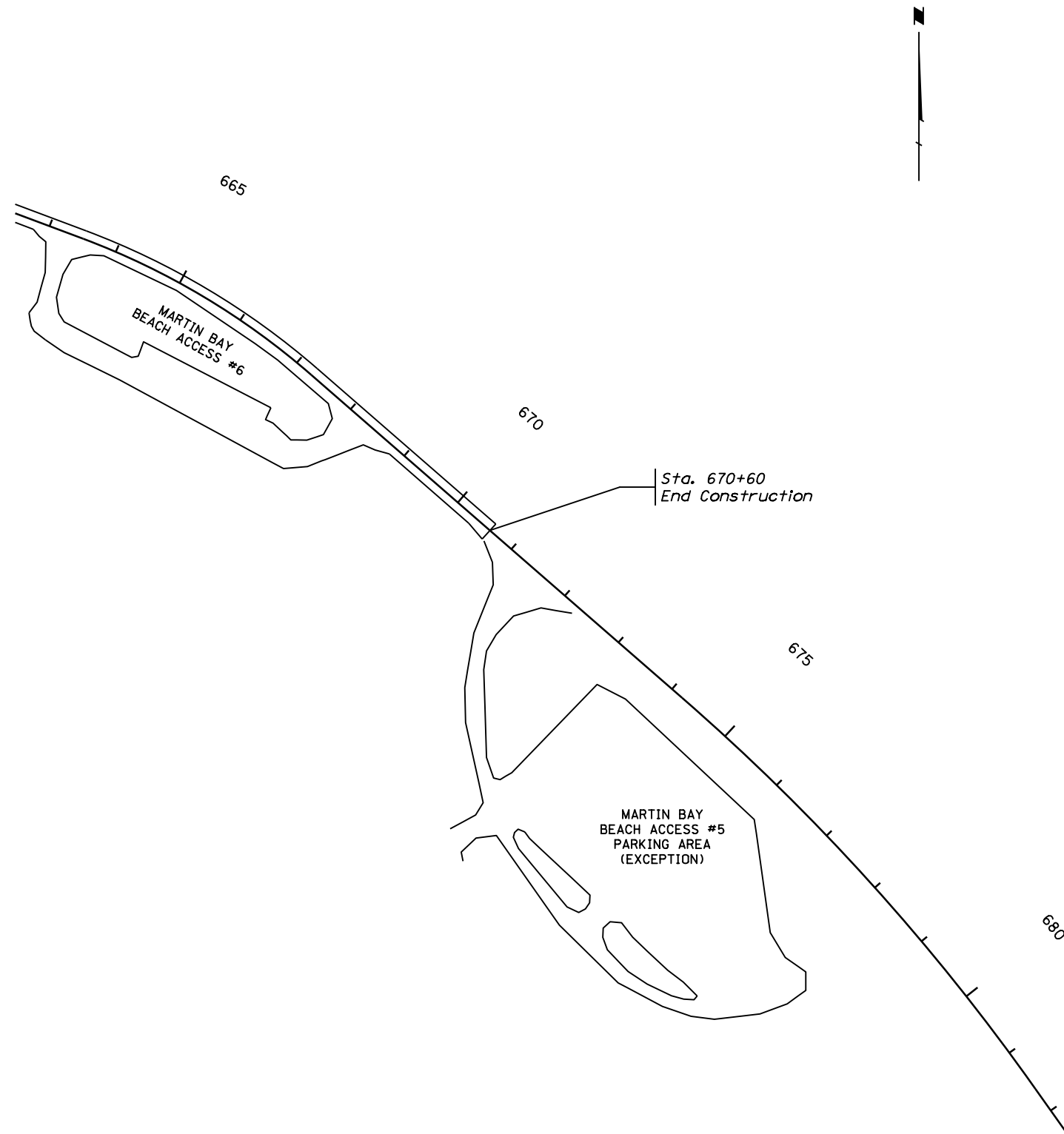
May 30 2019

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PLAN







May 30 2019 DataSign

PLAN

ROADWAY DESIGN DIVISION

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SHEET 1 OF 3

CHANNELIZATION DEVICES

THE FUNCTION OF CHANNELIZATION DEVICES IS TO WARN ROAD USERS OF CONDITIONS CREATED BY WORK ACTIVITIES IN OR NEAR THE TRAVELED WAY, TO PROTECT WORKERS IN THE TEMPORARY TRAFFIC CONTROL ZONE, AND TO GUIDE DRIVERS AND PEDESTRIANS SAFELY. CHANNELIZING DEVICES INCLUDE BUT ARE NOT LIMITED TO CONES, TUBULAR POSTS, VERTICAL PANELS, DRUMS, BARRICADES, TRAFFIC LANE DIVIDERS, TEMPORARY RAISED ISLANDS, AND BARRIERS.

DEVICES USED FOR CHANNELIZATION SHOULD PROVIDE FOR SMOOTH AND GRADUAL TRAFFIC MOVEMENT FROM ONE LANE TO ANOTHER, ONTO A BYPASS OR DETOUR, OR TO REDUCE THE WIDTH OF THE TRAVELED WAY. THEY MAY ALSO BE USED TO SEPARATE TRAFFIC FROM THE WORK SPACE, PAVEMENT DROP-OFFS, PEDESTRIAN PATHS, OR OPPOSING DIRECTIONS OF TRAFFIC.

CHANNELIZING DEVICES SHALL MEET THE CRASHWORTHY PERFORMANCE CRITERIA CONTAINED IN THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). THEY SHOULD BE CONSTRUCTED AND BALLASTED TO PERFORM IN A PREDICTABLE MANNER WHEN INADVERTENTLY STRUCK BY A VEHICLE. IF STRUCK, THE DEVICE SHOULD YIELD OR BREAK AWAY, FRAGMENTS OR OTHER DEBRIS FROM THE DEVICE SHOULD NOT PENETRATE THE PASSENGER COMPARTMENT OF THE VEHICLE OR BE A POTENTIAL HAZARD TO WORKERS OR PEDESTRIANS IN THE IMMEDIATE AREA.

SPACING OF CHANNELIZING DEVICES SHOULD NOT EXCEED A DISTANCE IN FEET EQUAL TO THE SPEED WHEN USED FOR THE TAPER CHANNELIZATION, AND A DISTANCE IN FEET OF TWICE THE SPEED WHEN USED FOR TANGENT CHANNELIZATION.

| SPACING OF CHANNELIZATION DEVICES | | |
|-----------------------------------|---------------------------|---------|
| SPEED (MPH) | SPACING OF DEVICES (FEET) | |
| | TAPER | TANGENT |
| 25 | 25 | 50 |
| 35 | 35 | 70 |
| 45 | 45 | 90 |
| 55 | 55 | 110 |
| 60 | 60 | 120 |
| 65 | 65 | 130 |
| 75 | 75 | 150 |

WARNING LIGHTS MAY BE ADDED TO CHANNELIZING DEVICES IN AREAS WITH FREQUENT FOG, SNOW, OR SEVERE ROADWAY CURVATURE, OR WHERE VISUAL DISTRACTIONS ARE PRESENT, EXCEPT FOR THE SEQUENTIAL FLASHING WARNING LIGHTS, WARNING LIGHTS PLACED ON CHANNELIZING DEVICES USED IN A SERIES TO CHANNELIZE ROAD USERS SHALL BE STEADY-BURN.

THE RETROREFLECTIVE MATERIAL USED ON CHANNELIZING DEVICES SHALL HAVE A SMOOTH, SEALED OUTER SURFACE, MEETING THE REQUIREMENTS OF THE ASTM SPECIFICATION D4956, FOR TYPE IV SHEETING OR TYPE V REBOUNDABLE SHEETING (OR GREATER).

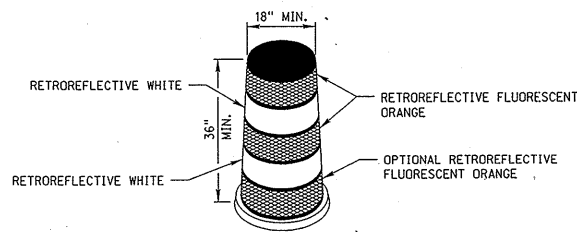
| COEFFICIENT OF RETROREFLECTION (CD/LUX/M ²) | | | |
|---|--------|-----|--------|
| WHITE | ORANGE | RED | YELLOW |
| 250 | 100 | 45 | 170 |

THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) "QUALITY GUIDELINES FOR WORK ZONE TRAFFIC CONTROL DEVICES" SHALL BE USED AS A VISUAL GUIDE FOR DETERMINING IF A TRAFFIC CONTROL DEVICE/OR SIGN IS ACCEPTABLE, MARGINAL OR UNACCEPTABLE.

THE NAME AND TELEPHONE NUMBER OF THE AGENCY, CONTRACTOR, OR SUPPLIER MAY BE SHOWN ON THE CHANNELIZING DEVICE BACK OR SUPPORT, BUT NOT ON THE DEVICE FACE. THE LETTERS AND NUMBERS SHALL BE A NON-REFLECTIVE COLOR AND NOT OVER 15 SQUARE INCHES IN TOTAL AREA.

PARTICULAR ATTENTION SHOULD BE GIVEN TO MAINTAINING THE CHANNELIZING DEVICES TO KEEP THEM CLEAN, VISIBLE, AND PROPERLY POSITIONED. DEVICES SHALL BE REPLACED THAT ARE DAMAGED AND/OR HAVE LOST A SIGNIFICANT AMOUNT OF THEIR RETROREFLECTIVITY AND EFFECTIVENESS.

REFLECTORIZED PLASTIC DRUMS



DESIGN

REFLECTORIZED PLASTIC DRUMS USED FOR TRAFFIC WARNING OR CHANNELIZATION SHALL BE CONSTRUCTED OF LIGHTWEIGHT, FLEXIBLE, AND DEFORMABLE MATERIALS AND BE A MINIMUM OF 36 INCHES IN HEIGHT AND HAVE A MINIMUM WIDTH OF AT LEAST A 18 INCHES, REGARDLESS OF ORIENTATION. THE PREDOMINANT COLOR OF THE DRUM SHALL BE ORANGE. METAL DRUMS SHALL NOT BE USED. THE MARKINGS ON DRUMS SHALL BE HORIZONTAL, SHALL BE CIRCUMFERENTIAL, AND SHALL DISPLAY FOUR 6 INCH WIDE BANDS OF RETROREFLECTIVE SHEETING, ALTERNATING FLUORESCENT ORANGE-WHITE-FLUORESCENT ORANGE-WHITE. DRUMS SHALL HAVE CLOSED TOPS THAT WILL NOT ALLOW COLLECTION OF CONSTRUCTION OR OTHER DEBRIS.

APPLICATION

DRUMS ARE MOST COMMONLY USED TO CHANNELIZE OR DELINEATE TRAFFIC FLOW BUT MAY ALSO BE USED INDIVIDUALLY OR IN GROUPS TO MARK SPECIFIC LOCATIONS. DRUMS ARE HIGHLY VISIBLE AND HAVE GOOD TARGET VALUE; THEY GIVE THE APPEARANCE OF BEING FORMIDABLE OBSTACLES AND, THEREFORE, COMMAND THE RESPECT OF ROAD USERS.

BALLAST SHALL NOT BE PLACED ON TOP OF THE DRUM. DRUMS SHOULD NOT BE WEIGHTED WITH SAND, WATER, OR ANY MATERIAL.

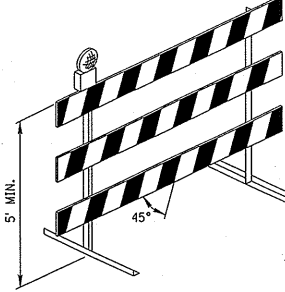
BARRICADES

| BARRICADE TYPE | TYPE II | TYPE III |
|------------------------------------|--------------------------------|--------------------------------|
| WIDTH OF RAIL* | 8 INCHES MIN. - 12 INCHES MAX. | 8 INCHES MIN. - 12 INCHES MAX. |
| LENGTH OF RAIL | 36 INCHES | 8 FEET** |
| WIDTH OF STRIPES | 6 INCHES | 6 INCHES |
| HEIGHT | 36 INCHES | 5 FEET |
| REFLECTIVE SHEETING | TYPE IV | TYPE IV |
| NUMBER OF REFLECTORIZED RAIL FACES | 4 (TWO EACH DIRECTION) | 6 (THREE EACH DIRECTION) |

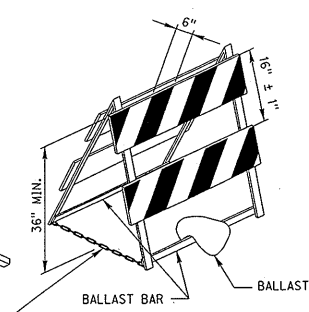
*NOMINAL DIMENSIONS ARE PERMISSIBLE WHEN CONSTRUCTED FROM LUMBER.
**WHEN LATERAL SPACE IS LIMITED, SOME TYPE III BARRICADES WITH A 4 FOOT LENGTH OF RAIL, MAY BE ALLOWED WHEN APPROVED BY THE ENGINEER.

TYPE III BARRICADE

TYPICAL MOUNTING OF FLASHING WARNING LIGHTS. LIGHTS SHALL ALWAYS BE IN VERTICAL ALIGNMENT.



TYPE II BARRICADE



BALLAST SHALL NOT BE PLACED OVER ANY REFLECTIVE DEVICE

DESIGN

A BARRICADE IS A PORTABLE OR FIXED DEVICE HAVING TWO OR THREE RAILS WITH APPROPRIATE MARKINGS. IT IS USED TO CONTROL ROAD USERS BY CLOSING, RESTRICTING, OR DELINEATING ALL OR A PORTION OF THE RIGHT-OF-WAY.

BARRICADES SHALL BE ONE OF TWO TYPES; TYPE II OR TYPE III.

STRIPES ON BARRICADE RAILS SHALL BE ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION ROAD USERS ARE TO PASS. THE STRIPES SHALL BE 6 INCHES WIDE. THE MINIMUM RAIL LENGTH FOR A TYPE II BARRICADE IS 36 INCHES.

WHERE BARRICADES EXTEND ENTIRELY ACROSS A ROADWAY, THE STRIPES SHOULD SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH ROAD USERS MUST TURN. WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE STRIPES MAY SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE OR BARRICADES. WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.

BARRICADE RAILS SHOULD BE SUPPORTED IN A MANNER THAT WILL ALLOW THEM TO BE SEEN BY THE ROAD USER, AND IN A MANNER THAT PROVIDES A STABLE SUPPORT THAT IS NOT EASILY BLOWN OVER OR DISPLACED.

ON HIGH-SPEED ROADWAYS OR IN OTHER SITUATIONS WHERE BARRICADES MAY BE SUSCEPTIBLE TO OVERTURNING THE WIND, SANDBAGS SHOULD BE USED FOR BALLASTING. SANDBAGS MAY BE PLACED ON LOWER PARTS OF THE FRAME OR STAYS TO PROVIDE THE REQUIRED BALLAST BUT SHALL NOT BE PLACED ON TOP OF ANY STRIPED RAIL. BARRICADES SHALL NOT BE BALLASTED BY HEAVY OBJECTS SUCH AS ROCKS OR CHUNKS OF CONCRETE.

THE BARRICADE OWNERS NAME, NOT TO EXCEED 15 SQUARE INCHES SHALL BE SHOWN ON THE BARRICADE BACK OR SUPPORT BUT NOT ON ITS FACE.

** WHEN LATERAL SPACE IS LIMITED, SOME TYPE III BARRICADES WITH A 4 FOOT LENGTH OF RAIL, MAY BE ALLOWED WHEN APPROVED BY THE ENGINEER.

APPLICATION

TYPE II BARRICADES ARE INTENDED FOR USE IN SITUATIONS WHERE TRAFFIC IS MAINTAINED THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE. THEY MAY BE USED INDIVIDUALLY OR IN GROUPS TO MARK A SPECIFIC CONDITION, OR THEY MAY BE USED IN A SERIES FOR CHANNELIZING TRAFFIC. ON THE INTERSTATE, FREEWAY AND EXPRESSWAY SYSTEM, TYPE II BARRICADES SHALL NOT BE USED FOR CHANNELIZATION.

TYPE III BARRICADES USED AT A ROAD CLOSURE MAY EXTEND COMPLETELY ACROSS A ROADWAY FROM CURB TO CURB. WHERE PROVISION IS MADE FOR ACCESS OF AUTHORIZED EQUIPMENT AND VEHICLES, THE RESPONSIBILITY FOR THE TYPE III BARRICADES SHOULD BE ASSIGNED TO A PERSON WHO SHALL PROVIDE PROPER CLOSURE AT THE END OF EACH WORK DAY.

WHEN A HIGHWAY IS LEGALLY CLOSED BUT ACCESS MUST STILL BE ALLOWED FOR LOCAL TRAFFIC, THE TYPE III BARRICADES MAY NOT BE EXTENDED COMPLETELY ACROSS A ROADWAY. A SIGN WITH THE APPROPRIATE LEGEND CONCERNING PERMISSIBLE USE BY LOCAL TRAFFIC SHALL BE MOUNTED.

NORMALLY PERMANENT SIGNS MOUNTED ON BARRICADES SHALL BE ERECTED ABOVE THE BARRICADE. THE SIGNS "ROAD CLOSED", OR "ROAD WORK AHEAD", FOR EXAMPLE CAN EFFECTIVELY BE MOUNTED ABOVE THE BARRICADE THAT CLOSSES THE ROADWAY. TYPE III BARRICADES SHALL BE SUPPLEMENTED WITH A LIGHTING DEVICE UNLESS SPECIFICALLY OMITTED BY THE ENGINEER. DETOUR ARROW AND LARGE WARNING ARROW SIGNS SHOULD BE PLACED ON THE FACE OF BARRICADE.

CONES



DESIGN

CONES SHALL BE PREDOMINANTLY ORANGE, FLOURESCENT RED-ORANGE, OR FLOURESCENT YELLOW/ORANGE, NOT LESS THAN 28 INCHES IN HEIGHT, AND SHALL BE MADE OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING VEHICLES ON IMPACT. CONES WHEN ALLOWED ON THE INTERSTATE, FREEWAY OR EXPRESSWAY SYSTEM SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.

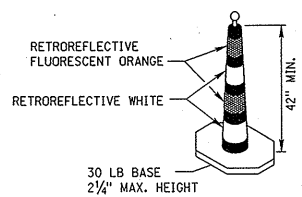
FOR NIGHTTIME USE, CONES SHALL BE RETROREFLECTIVE OR EQUIPPED WITH LIGHTING DEVICES FOR MAXIMUM VISIBILITY. RETROREFLECTION OF 28 INCH OR 36 INCH CONES SHALL BE PROVIDED BY A WHITE BAND 6 INCHES WIDE, NO MORE THAN 4 INCHES FROM THE TOP OF THE CONE, AND AN ADDITIONAL 4 INCH WIDE WHITE BAND A MINIMUM OF 2 INCHES BELOW THE 6 INCH BAND.

APPLICATION

TRAFFIC CONES ARE USED TO CHANNELIZE TRAFFIC, DIVIDE OPPOSING TRAFFIC LANES, DIVIDE TRAFFIC LANES WHEN TWO OR MORE LANES ARE KEPT OPEN IN THE SAME DIRECTION, AND DELINEATE SHORT-DURATION MAINTENANCE AND UTILITY WORK. CONES SHALL NOT BE USED FOR LANE CLOSURE TAPERS OR SHIFTS, CONES SMALLER THAN 42 INCHES SHALL NOT BE USED AT NIGHT ON RURAL HIGHWAYS, UNLESS SHOWN ON THE PLANS OR AS APPROVED OR DIRECTED BY THE ENGINEER.

STEPS SHOULD BE TAKEN TO ENSURE THAT CONES WILL NOT BE BLOWN OVER OR DISPLACED BY WIND OR MOVING TRAFFIC. CONES CAN BE DOUBLED UP TO INCREASE THEIR WEIGHT. SOME CONES ARE CONSTRUCTED WITH BASES THAT CAN BE FILLED WITH BALLAST. OTHERS HAVE SPECIAL WEIGHTED BASES, OR WEIGHTS SUCH AS SANDBAG RINGS THAT CAN BE DROPPED OVER THE CONES AND ONTO THE BASE TO PROVIDE ADDED STABILITY. BALLAST, HOWEVER, SHOULD NOT PRESENT A HAZARD IF THE CONES ARE INADVERTENTLY STRUCK.

42 INCH CONES



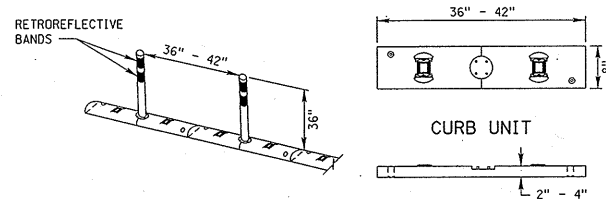
DESIGN

42 INCH CONES SHALL INCLUDE A 30 POUND RUBBER BASE AND DISPLAY FOUR 6 INCH WIDE BANDS OF RETROREFLECTIVE SHEETING, ALTERNATING FLUORESCENT ORANGE-WHITE-FLUORESCENT ORANGE-WHITE.

APPLICATION

WHEN APPROVED BY THE ENGINEER OR SHOWN IN THE PLANS, 42 INCH REFLECTIVE CONES MAY BE USED IN LIEU OF TYPE II BARRICADES OR REFLECTORIZED DRUMS. 42 INCH CONES SHALL NOT BE USED FOR LANE-CLOSURE TAPERS OR SHIFTS. IF A RECTANGULAR BASE IS USED, THE LONG SIDE OF THE BASE SHOULD BE ORIENTED PARALLEL TO THE DIRECTION OF TRAFFIC.

TUBULAR POST AND CURB SYSTEM



DESIGN

TUBULAR POSTS USED IN THE SYSTEM SHALL BE 36 INCHES HIGH AND A MINIMUM OF 2 INCHES WIDE WHEN FACING TRAFFIC. THE TUBULAR POST AND CURB SYSTEM SHALL BE MADE OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING IMPACTING VEHICLES. THE COLOR SHALL BE AS SHOWN IN THE PLANS.

THE TUBULAR POSTS SHALL BE RETROREFLECTIVE. RETROREFLECTION OF TUBULAR POSTS SHALL BE PROVIDED BY TWO 3-INCH WIDE RETROREFLECTIVE BANDS PLACED A MAXIMUM OF 2 INCHES FROM THE TOP WITH A MAXIMUM OF 6 INCHES BETWEEN THE BANDS. EACH CURB SECTION SHALL CONTAIN ONE RETROREFLECTIVE MARKER FACING EACH DIRECTION OF TRAFFIC. THE COLOR OF THE RETROREFLECTIVE BANDS AND MARKERS SHALL MATCH THE POST/CURB COLOR.

THE CURB SECTIONS SHALL BE CONFIGURED TO ALLOW FOR DRAINAGE FROM THE PAVEMENT SURFACE.

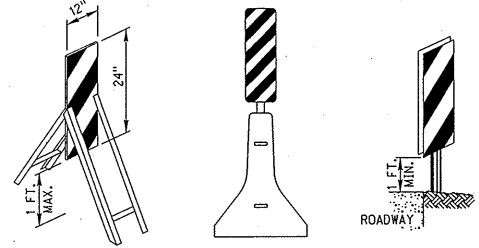
APPLICATION

TUBULAR POST AND CURB SYSTEMS MAY BE USED TO DIVIDE OPPOSING LANES OF TRAFFIC OR TO DIVIDE TRAFFIC LANES WHEN TWO OR MORE LANES ARE KEPT OPEN IN THE SAME DIRECTION.

FASTENING THE CURBS TO THE PAVEMENT WITH ANCHOR BOLTS OR OTHER SUITABLE METHODS AS DIRECTED BY THE MANUFACTURER IS REQUIRED TO MINIMIZE THE CHANCE OF BEING MOVED BY TRAFFIC.

TUBULAR POST AND CURB SYSTEMS SHALL BE INSTALLED IN THE LOCATIONS SHOWN IN THE PLANS OR DIRECTED BY THE ENGINEER.

VERTICAL PANELS



DESIGN

RETROREFLECTIVE MATERIAL ON VERTICAL PANELS SHALL BE 12 INCHES WIDE AND AT LEAST 24 INCHES HIGH. THEY SHALL HAVE ALTERNATING ORANGE AND WHITE STRIPES, WHERE THE HEIGHT OF THE RETROREFLECTIVE MATERIAL ON THE VERTICAL PANEL IS MORE THAN 36 INCHES, A PANEL STRIPE WIDTH OF 6 INCHES SHALL BE USED. WHERE THE HEIGHT OF THE RETROREFLECTIVE MATERIAL ON THE VERTICAL PANEL IS 36 INCHES OR LESS, A PANEL STRIPE WIDTH OF 4 INCHES SHALL BE USED. IF USED FOR TWO-WAY TRAFFIC, BACK-TO-BACK PANELS SHALL BE USED.

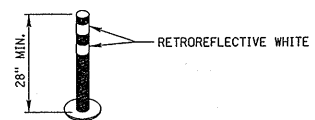
MARKINGS FOR VERTICAL PANELS SHALL BE ALTERNATING ORANGE AND WHITE RETROREFLECTORIZED STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS.

POST MOUNTED VERTICAL PANELS SHALL BE MOUNTED WITH THE BOTTOM A MINIMUM OF 1 FOOT ABOVE THE ROADWAY. VERTICAL PANELS ON A TEMPORARY STAND SHALL BE MOUNTED WITH THE BOTTOM A MAXIMUM OF 1 FOOT ABOVE THE ROADWAY.

APPLICATION

WHERE SPACE IS LIMITED VERTICAL PANELS MAY BE USED TO CHANNEL TRAFFIC, DIVIDE OPPOSING LANES OF TRAFFIC, DIVIDE TRAFFIC LANES OR REPLACE BARRICADES. WHEN APPROVED BY THE ENGINEER, VERTICAL PANELS MAY BE POST-MOUNTED ALONG THE SIDE OF THE ROADWAY.

TUBULAR POSTS



DESIGN

TUBULAR POSTS SHALL BE PREDOMINANTLY ORANGE, NOT LESS THAN 28 INCHES HIGH, BE A MINIMUM OF 2 INCHES WIDE WHEN FACING TRAFFIC, AND MADE OF A MATERIAL THAT CAN BE STRUCK WITHOUT DAMAGING IMPACTING VEHICLES.

TUBULAR POSTS SHALL BE RETROREFLECTIVE. RETROREFLECTION OF TUBULAR POSTS SHALL BE PROVIDED BY TWO 3 INCHES WIDE WHITE BANDS PLACED A MAXIMUM OF 2 INCHES FROM THE TOP, WITH A MAXIMUM OF 6 INCHES BETWEEN THE BANDS. THE BASE SHALL NOT BE WIDER THAN 12 INCHES OR HIGHER THAN 2 INCHES.

APPLICATION

TUBULAR POSTS HAVE LESS VISIBLE AREA THAN OTHER DEVICES AND SHOULD BE USED ONLY WHERE SPACE RESTRICTIONS DO NOT ALLOW FOR THE USE OF OTHER MORE VISIBLE DEVICES. THEY MAY BE USED EFFECTIVELY TO DIVIDE OPPOSING LANES OF TRAFFIC OR TO DIVIDE TRAFFIC LANES WHEN TWO OR MORE LANES ARE KEPT OPEN IN THE SAME DIRECTION.

STEPS SHOULD BE TAKEN TO ASSURE THAT TUBULAR POSTS WILL NOT BE BLOWN OVER OR DISPLACED BY TRAFFIC BY EITHER AFFIXING THEM TO THE PAVEMENT WITH ANCHOR BOLTS OR ADHESIVE, IF A NONCYLINDRICAL DEVICE IS USED, IT SHALL BE ATTACHED TO THE PAVEMENT TO ENSURE THAT THE WIDTH FACING TRAFFIC MEETS THE MINIMUM REQUIREMENTS.

TUBULAR POSTS SHOULD NOT BE USED FOR PEDESTRIAN CHANNELIZATION OR A PEDESTRIAN BARRIERS IN TEMPORARY TRAFFIC CONTROL ZONES ON OR ALONG SIDEWALKS.

| | | |
|----------|--------|--------------------------------------|
| R7 | JAN 18 | NDOR BORDER TO NDOT BORDER |
| R6 | JUN 14 | 2009 MUTCD UPDATE |
| R5 | OCT 98 | REVISE CHANNELIZATION DEVICES, TAPER |
| REV. NO. | DATE | DESCRIPTION OF REVISION |

NEBRASKA DEPARTMENT OF TRANSPORTATION
STANDARD PLAN NO. 920-R7

TRAFFIC CONTROL,
CONSTRUCTION AND MAINTENANCE

ACCEPTED BY FHWA FOR USE ON THE
NATIONAL HIGHWAY SYSTEM:

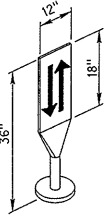
DANIEL J. WADDLE
E-6289
STATE OF NEBRASKA

David Mearns
9-1-2017
DATE

ORIGINAL:
OCTOBER 1998
DATE

1
3

OPPOSING TRAFFIC LANE DIVIDERS



DESIGN

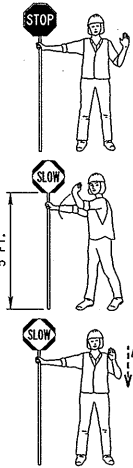
OPPOSING TRAFFIC LANE DIVIDERS SHALL BE A TWO SIDED UPRIGHT RETROREFLECTORIZED ORANGE PANEL, WITH A WIDTH OF 12 INCHES AND A HEIGHT OF 18 INCHES. THE TOP OF THE PANEL SHALL BE 36 INCHES ABOVE THE PAVEMENT. THE SYMBOL ON EACH SIDE SHALL BE TWO OPPOSING BLACK ARROWS. THE LANE DIVIDER SHALL BE MADE OF LIGHTWEIGHT MATERIAL THAT WILL YIELD UPON IMPACT BY A VEHICLE. THE LANE DIVIDER BASE SHALL NOT BE WIDER THAN 12 INCHES OR HIGHER THAN 4 INCHES. THE BASE SHALL BE ATTACHED TO THE EXISTING SURFACE BY EPOXY OR OTHER SUITABLE ADHESIVE, TO ENSURE THAT THE PANEL REMAINS FACING TRAFFIC.

APPLICATION

OPPOSING TRAFFIC LANE DIVIDERS ARE DELINEATION DEVICES USED AS CENTER LANE DIVIDERS TO SEPARATE OPPOSING TRAFFIC ON A TWO-LANE, TWO-WAY OPERATION.

FLAGGERS

REQUIRED METHOD



TO STOP TRAFFIC

TRAFFIC PROCEED

TO ALERT AND SLOW TRAFFIC

EMERGENCY USE ONLY



FLAGGER PADDLE

THE STOP/SLOW PADDLE SHALL HAVE AN OCTAGONAL SHAPE ON A RIGID HANDLE. STOP/SLOW PADDLES SHALL BE AT LEAST 18 INCHES WIDE WITH LETTERS AT LEAST 6 INCHES HIGH. IF THE STOP/SLOW PADDLE IS PLACED ON A RIGID STAFF, THE MINIMUM LENGTH OF THE STAFF, MEASURED FROM THE BOTTOM OF THE SIGN TO THE END OF THIS STAFF THAT RESTS ON THE GROUND, SHOULD BE 5 FEET. THE STOP/SLOW PADDLE SHOULD BE THE PRIMARY AND PREFERRED HAND-SIGNALING DEVICE BECAUSE THE STOP/SLOW PADDLE GIVES ROAD USERS MORE POSITIVE GUIDANCE THAN RED FLAGS. USE OF FLAGS SHOULD BE LIMITED TO EMERGENCY SITUATIONS.

FLAGGERS

A FLAGGER MUST BE DRESSED FOR SAFETY. IN ADDITION TO THE REQUIREMENTS OF THE "WORKER VISIBILITY" SECTION LISTED BELOW, FLAGGERS SHALL WEAR:

1. AN ORANGE OR YELLOW/GREEN CAP OR HARD HAT.
2. A SHIRT WITH SLEEVES, PANTS AND SHOES (TANK TOPS, SHORTS OR SANDALS SHALL NOT BE WORN).

FLAGGERS SHALL BE INSTRUCTED IN THE PROPER LOCATION, DUTIES AND PROCEDURES FOR FLAGGING AS OUTLINED IN THE CURRENT MUTCD AND THE DEPARTMENT OF ROADS FLAGGER'S HANDBOOK. AS REQUIRED BY THE DEPARTMENT OF ROADS, THE FLAGGER SHALL BE CERTIFIED, AND HAVE IN THEIR POSSESSION, A VALID FLAGGER CERTIFICATION CARD.

WORKER VISIBILITY

ALL WORKERS WITHIN THE RIGHT-OF-WAY WHO ARE EXPOSED EITHER TO TRAFFIC (VEHICLES USING THE HIGHWAY FOR PURPOSES OF TRAVEL) OR TO CONSTRUCTION EQUIPMENT WITHIN THE WORK AREA SHALL WEAR HIGH-VISIBILITY SAFETY APPAREL. HIGH-VISIBILITY SAFETY APPAREL IS DEFINED TO MEAN PERSONAL PROTECTIVE SAFETY CLOTHING THAT:

1. IS INTENDED TO PROVIDE CONSPICUITY DURING BOTH DAYTIME AND NIGHTTIME USAGE, AND
2. MEETS THE PERFORMANCE CLASS 2 OR CLASS 3 REQUIREMENTS OF THE ANSI/ISEA 107-2004 PUBLICATION ENTITLED "AMERICAN NATIONAL STANDARDS FOR HIGH-VISIBILITY SAFETY APPAREL AND HEADWEAR"

LIGHTING DEVICES

FUNCTION

CONSTRUCTION AND MAINTENANCE ACTIVITIES OFTEN CREATE CONDITIONS ON OR NEAR THE TRAVELED WAY THAT ARE PARTICULARLY HAZARDOUS AT NIGHT. IT IS OFTEN DESIRABLE AND NECESSARY TO SUPPLEMENT THE REFLECTORIZED SIGNS, BARRIERS, AND CHANNELIZING DEVICES WITH LIGHTING DEVICES. STROBE TYPE LIGHTS ARE NOT PERMITTED.

BARRICADE WARNING LIGHTS DESIGN (BATTERY OPERATED)

TYPE "A" LOW INTENSITY FLASHING WARNING LIGHTS ARE MOST COMMONLY MOUNTED ON BARRICADES, OR WITH SIGNS AND ARE INTENDED TO WARN THE DRIVER THAT THEY ARE PROCEEDING IN A HAZARDOUS AREA. THESE LIGHTS SHALL NOT BE USED FOR DELINEATION, AS A SERIES OF FLASHING LIGHTS IN A ROW WOULD TEND TO OBSCURE THE DESIRED PATH.

TYPE "A" HIGH INTENSITY FLASHING WARNING LIGHTS ARE NORMALLY MOUNTED ON THE TYPE III BARRICADE THAT ACCOMPANIES THE ADVANCE WARNING SIGNS.

TYPE "C" STEADY BURN LIGHTS AS USED HEREIN, SHALL MEAN A SERIES OF LOW WATTAGE YELLOW ELECTRIC LIGHTS. WHERE LIGHTS ARE NEEDED TO DELINEATE OR MARK THE TRAVELED WAY THROUGH AND AROUND OBSTRUCTIONS IN A CONSTRUCTION MAINTENANCE AREA, THE DELINEATION SHALL BE ACCOMPLISHED BY USE OF STEADY BURNING LIGHTS. WHEN USED TO SUPPLEMENT CHANNELIZATION, THE MAXIMUM SPACING FOR WARNING LIGHTS SHOULD BE IDENTICAL TO THE CHANNELIZING DEVICE SPACING REQUIREMENTS. WHEN USED TO DELINEATE A CURVE, TYPE "C" WARNING LIGHTS SHOULD ONLY BE USED ON DEVICES ON THE OUTSIDE OF THE CURVE, AND NOT ON THE INSIDE OF THE CURVE.

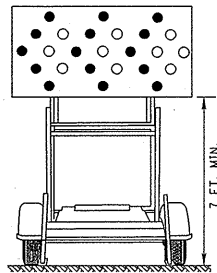
FLASHING ARROW PANEL (DISPLAY)

AN ARROW PANEL IS A SIGN WITH A MATRIX OF ELEMENTS, CAPABLE OF EITHER FLASHING OR SEQUENTIAL DISPLAYS. THIS SIGN SHALL PROVIDE ADDITIONAL WARNING AND DIRECTIONAL INFORMATION TO ASSIST IN MERGING AND CONTROLLING ROAD USERS THROUGH OR AROUND A TEMPORARY TRAFFIC CONTROL ZONE. AN ARROW PANEL SHOULD BE USED IN COMBINATION WITH APPROPRIATE SIGNS, CHANNELIZING DEVICES OR OTHER TRAFFIC CONTROL DEVICES.

DESIGN

ARROW PANELS SHALL MEET THE SIZE AND SPECIFICATIONS OF THE MUTCD FOR TYPE "C" ARROW DISPLAYS.

FLASHING ARROW PANEL SHALL BE RECTANGULAR, OF SOLID APPEARANCE AND FINISHED IN NON-REFLECTIVE BLACK. THE PANEL SHALL BE MOUNTED ON A VEHICLE, TRAILER OR OTHER SUITABLE SUPPORT. MINIMUM MOUNTING HEIGHT MEASURED VERTICALLY FROM THE BOTTOM OF THE PANEL TO THE ROADWAY BELOW IT OR TO THE ELEVATION OF THE NEAR EDGE OF THE ROADWAY, SHALL BE 7 FEET EXCEPT ON VEHICLE-MOUNTED PANELS, WHICH SHOULD BE AS HIGH AS PRACTICAL.



| THE FOLLOWING SELECTIONS SHALL BE PROVIDED ON THE ARROW PANEL | |
|---|-------------------------------------|
| OPERATING MODE | PANEL DISPLAY |
| FLASHING ARROW | RIGHT SHOWN; LEFT OPPOSITE |
| SEQUENTIAL ARROW | RIGHT SHOWN; LEFT OPPOSITE |
| SEQUENTIAL CHEVRON | RIGHT SHOWN; LEFT OPPOSITE |
| FLASHING DOUBLE ARROW | RIGHT SHOWN; LEFT OPPOSITE |
| FLASHING OR ALTERNATING CAUTION | OR OR ALTERNATING DIAMOND CAUTION |

THE ARROW PANEL SHALL HAVE A MINIMUM SIZE OF 96 INCHES WIDE AND 48 INCHES HIGH. THE MINIMUM LEGIBILITY DISTANCE SHALL BE 1 MILE. THE PANEL SHALL CONTAIN 25 LAMP ELEMENTS. ARROW PANEL ELEMENTS SHALL BE CAPABLE OF A MINIMUM 50 PERCENT DIMMING, AUTOMATICALLY WHEN AMBIENT LIGHT FALLS BELOW 50 LUX.

THE MINIMUM ELEMENT "ON TIME" SHALL BE 50 PERCENT FOR THE FLASHING MODE AND EQUAL INTERVALS OF 25 PERCENT FOR EACH SEQUENTIAL CHEVRON PHASE. THE FLASHING RATE SHALL BE NO FEWER THAN 25 NOR MORE THAN 40 FLASHES PER MINUTE.

APPLICATION

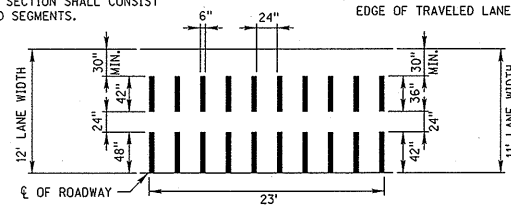
A FLASHING ARROW OR SEQUENTIAL CHEVRON MODE SHALL ONLY BE USED FOR STATIONARY OR MOVING LANE CLOSURES.

FOR SHOULDER WORK BLOCKING THE SHOULDER, FOR ROADSIDE WORK NEAR THE SHOULDER, OR FOR TEMPORARILY CLOSING ONE LANE ON A TWO-LANE, TWO-WAY ROADWAY, AN ARROW PANEL SHALL BE USED ONLY IN THE CAUTION MODE.

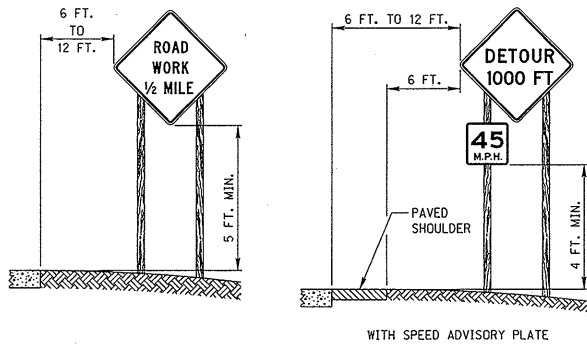
AN ARROW DISPLAY MODE SHALL NOT BE USED ON A TWO-LANE TWO-WAY ROADWAY FOR TEMPORARY ONE-LANE OPERATION OR LANE SHIFTS. AN ARROW DISPLAY SHALL NOT BE USED TO LATERALLY SHIFT TRAFFIC.

TEMPORARY RUMBLE STRIPS

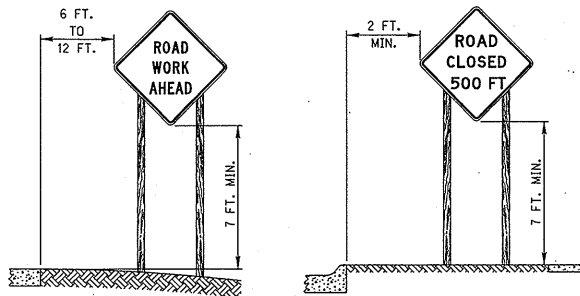
EACH SECTION SHALL CONSIST OF 10 SEGMENTS.



ROADSIDE SIGNS
HEIGHT AND LATERAL LOCATION OF SIGNS
RURAL AREA



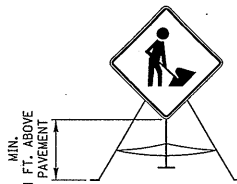
URBAN AREA



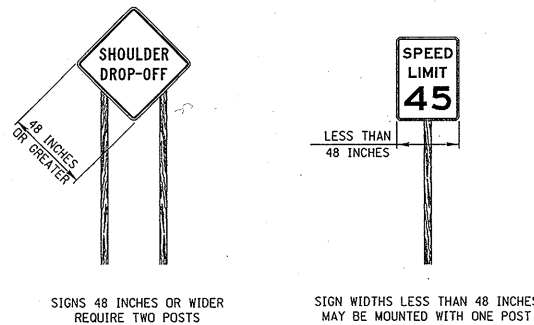
TYPICAL FIRST SIGN AT
CONSTRUCTION SITE



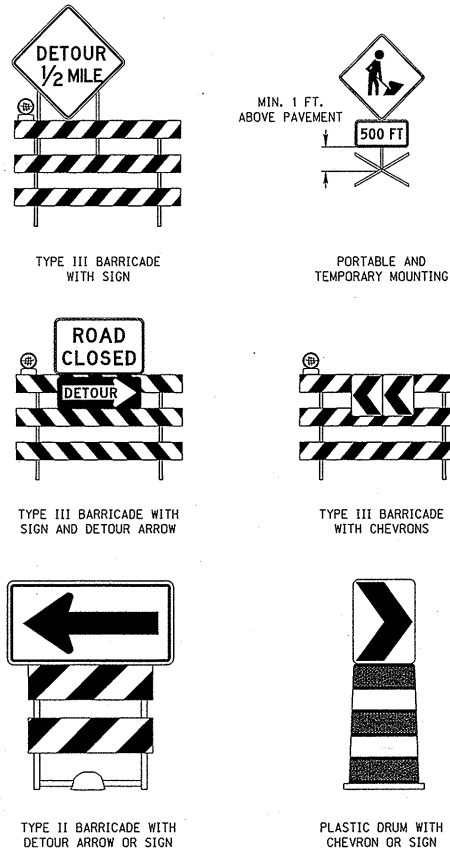
PORTABLE AND
TEMPORARY MOUNTING



TYPICAL SIGN MOUNTINGS
POST MOUNTED



TYPICAL SIGN MOUNTINGS
OTHER THAN POST MOUNTED



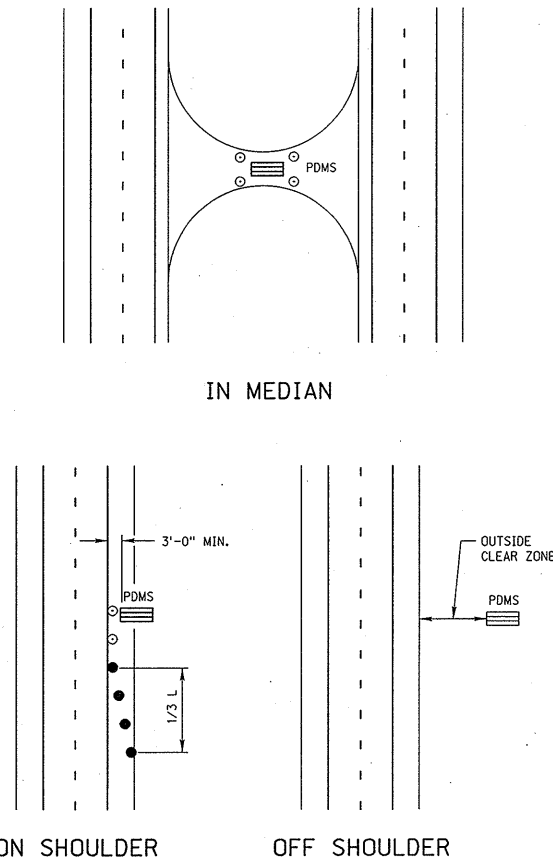
TEMPORARY SIGN SUPPORTS

ALL "TEMPORARY SIGN" SUPPORTS (BASES) SHALL BE NCHRP 350 OR MASH (TL-3) APPROVED.

"TEMPORARY SIGNS" ARE ALL TEMPORARILY MOUNTED WORK ZONE SIGNS THAT ARE NOT POST MOUNTED IN THE GROUND AT THE TYPICAL 5 FOOT MOUNTING HEIGHT. TEMPORARY SIGNS ARE CONSIDERED NCHRP 350 OR MASH CATEGORY 2 DEVICES AND ARE MOUNTED ON TEMPORARY SIGN STANDS. TEMPORARY SIGNS SHALL BE MOUNTED A MINIMUM OF 1 FOOT ABOVE THE GROUND, UNLESS OTHERWISE REQUIRED TO BE MOUNTED AT A HIGHER HEIGHT.

TEMPORARY SIGNS AND THEIR SUPPORTS SHALL NOT BE IN PLACE LONGER THAN 3 DAYS. ANY SIGN THAT IS TO BE IN PLACE LONGER THAN 3 DAYS SHALL BE POST MOUNTED OR MOUNTED TO A DRUM, BARRICADE, OR BARRIER, AS REQUIRED BY THE PLANS OR SPECIFICATIONS.

PORTABLE DYNAMIC MESSAGE SIGN DELINEATION



PORTABLE DYNAMIC MESSAGE SIGNS (PDMS)

THE PLACEMENT OF PDMS SHOULD BE IN THE FOLLOWING ORDER:

WHENEVER POSSIBLE, PDMS SHOULD BE PLACED OFF OF ANY USABLE PORTION OF THE ROADWAY ON THE RIGHT SIDE OF THE ROADWAY. WHEN PLACED OUTSIDE THE CLEAR ZONE OR BEHIND GUARDRAIL OR CONCRETE PROTECTION BARRIERS, DELINEATION IS NOT REQUIRED.

WHERE FIELD CONDITIONS DO NOT ALLOW FOR THIS PLACEMENT, THE SIGNS MAY BE LOCATED ON THE OUTSIDE SHOULDER OF THE ROADWAY OR WITHIN THE MEDIAN.

A. A MINIMUM CLEARANCE OF 3 FEET MEASURED HORIZONTALLY FROM THE EDGE OF THE SIGN TO THE EDGE OF THE TRAVELED WAY IS RECOMMENDED.

B. THE PDMS SHOULD HAVE A MINIMUM MOUNTED HEIGHT OF 7 FEET ON FREEWAYS, EXPRESSWAYS AND IN URBAN AREAS.

C. ALL OTHER RURAL APPLICATIONS SHOULD HAVE A MINIMUM HEIGHT OF 5 FEET.

THESE HEIGHTS ARE MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE ELEVATION OF THE NEAR EDGE OF THE PAVEMENT.

REFLECTORIZED PLASTIC DRUMS SHOULD BE USED TO DELINEATE EACH SIGN USING A 1/3 L TAPER. THESE DRUMS SHOULD BE POSITIONED ON THE UPSTREAM END OF THE SIGN TO FORM A TAPER LEADING UP TO THE TRAFFIC SIDE OF THE SIGN. FOR A SIGN LOCATED IN THE MEDIAN, THE SIGN SHOULD BE DELINEATED WITH A 42 INCH CONE ON ALL FOUR CORNERS.

WHEN DEPLOYED, THE SIGN SHALL BE SIGHTED AND ALIGNED WITH APPROACHING TRAFFIC TO ENSURE VISIBILITY OF THE MESSAGE. IF MULTIPLE SIGNS ARE USED, THE SIGNS SHOULD BE LOCATED ON THE SAME SIDE OF THE ROAD AND SEPARATED ACCORDING TO PROPER SIGN SPACING.

WHEN PRACTICAL, PDMS SHOULD NOT BE USED TO REPLACE STATIC SIGNS FOR LONG TERM USAGE (OVER 10 DAYS).

WHEN PDMS ARE TO BE DEPLOYED FOR LONG PERIODS, SUCH AS INCIDENT MANAGEMENT ROLES, CONCRETE PADS WITH APPROPRIATE TIE DOWNS SHOULD BE CONSTRUCTED FOR THEIR PLACEMENT.

PDMS NOT ACTIVELY BEING USED IN A CONSTRUCTION OR INCIDENT MANAGEMENT ROLE SHOULD BE REMOVED.

REFER TO NDOR "DMS GUIDELINES" FOR PROPER PDMS MESSAGE INFORMATION.

NOTES

- ALL TRAFFIC CONTROL DEVICES SHALL MEET THE APPLICABLE STANDARDS AND SPECIFICATIONS PRESCRIBED IN PART 6 OF THE LATEST ADOPTED EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD)" AND THE STATE OF NEBRASKA SUPPLEMENT TO THE MUTCD. ALL TRAFFIC CONTROL DEVICES SHALL BE CRASHWORTHY AND QUALIFY AS SUCH ACCORDING TO THE TESTING AND ACCEPTANCE GUIDELINES OF THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
- TRAFFIC CONTROL PLANS AND DEVICES SHOULD FOLLOW THE PRINCIPLES SET FORTH, BUT MAY DEViate FROM THE TYPICAL DRAWINGS TO ALLOW FOR CONDITIONS AND REQUIREMENTS OF THE PROJECT.
- TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SO AS NOT TO OBSTRUCT THE VIEW OF OTHER TRAFFIC CONTROL DEVICES.
- THE ENGINEER SHALL HAVE THE AUTHORITY TO REQUIRE THE USE, AND APPROVE THE LOCATION OF ANY OF THE DEVICES SHOWN IN THESE PLANS.

WORK ZONE SPEED LIMIT NOTES

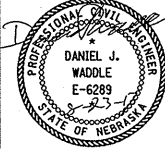
- WORK ZONE SPEED LIMITS SHALL NOT BE INSTALLED WITHOUT A SPEED ZONE AUTHORIZATION COMPLETED BY THE DEPARTMENT.
- REDUCED SPEED LIMITS SHOULD BE USED ONLY IN THE SPECIFIC PORTION OF THE WORK ZONE WHERE CONDITIONS OR RESTRICTIVE FEATURES ARE PRESENT. HOWEVER, FREQUENT CHANGES IN THE SPEED LIMIT SHOULD BE AVOIDED. THE REDUCTION OF SPEED SHOULD BE DESIGNED SO VEHICLES CAN SAFELY TRAVEL THROUGH THE WORK ZONE WITH A SPEED LIMIT REDUCTION OF NO MORE THAN 10 MPH UNLESS OTHERWISE NOTED IN THE PLANS.
- WORK ZONE SPEED LIMITS SHOWN ARE TYPICAL APPLICATIONS ONLY AND ARE NOT TO BE ASSUMED AS THE SPEED LIMITS REQUIRED FOR THE WORK.
- EXISTING SPEED LIMIT SIGNS SHALL BE REMOVED OR COVERED WHEN A REDUCED WORK ZONE SPEED LIMIT IS IN EFFECT IN THE SAME AREA.
- WORK ZONE SPEED LIMIT SIGNS SHALL BE INSTALLED EVERY MILE THROUGH THE WORK AREA WHEN SPEED ZONE IS REDUCED.
- A SPEED LIMIT SIGN ENDING THE REDUCED SPEED ZONE SHALL BE INSTALLED AT THE END OF EACH ZONE.
- DOUBLE FINES AND REDUCED SPEED ZONE SIGNING ARE NOT REQUIRED FOR SHORT-DURATION WORK LESS THAN 12 HOURS.

TAPER FORMULA

- L = S x W FOR SPEEDS OF 45 MPH OR MORE
- L = $\frac{WS^2}{80}$ FOR SPEEDS OF 40 MPH OR LESS.
- WHERE:
- L - MINIMUM LENGTH OF TAPER.
- S - NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK.
- W - WIDTH OF OFFSET (LANE WIDTH).

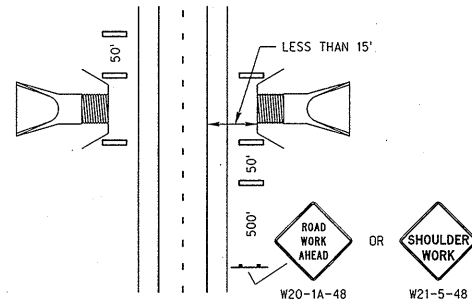
LEGEND

- TYPE III BARRICADE
- REFLECTORIZED PLASTIC DRUM
- REFLECTORIZED PLASTIC DRUM OR 42" CONE
- PORTABLE DYNAMIC MESSAGE SIGN

| R7 | JAN 18 | NDOR BORDER TO NDOT BORDER |
|---|--------|--------------------------------------|
| R6 | JUN 14 | 2009 MUTCD UPDATE |
| R5 | OCT 98 | REVISE CHANNELIZATION DEVICES, TAPER |
| REV. NO. | DATE | DESCRIPTION OF REVISION |
| NEBRASKA DEPARTMENT OF TRANSPORTATION STANDARD PLAN NO. 920-R7 TRAFFIC CONTROL, CONSTRUCTION AND MAINTENANCE | | |
| ACCEPTED BY FHWA FOR USE ON THE NATIONAL HIGHWAY SYSTEM: | | |
|  | | |
| 9-1-2017 DATE | | |
| ORIGINAL: OCTOBER 1998 DATE | | |
| | | 3 3 |

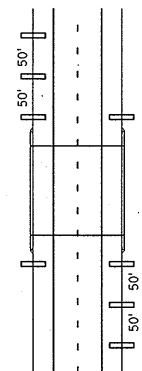
NOTES

- SIGNS SHOWN ARE USUALLY FOR ONE DIRECTION OF TRAVEL ONLY.
- DESIGNATION OF SPEED SHOWN ON ADVISORY SPEED SIGNS (W13-1P) SHALL BE DETERMINED BY THE ENGINEER IN ACCORDANCE WITH MUTCD. THE SPEED DESIGNATION SHALL BE AS HIGH AS PRACTICAL AND FEASIBLE.
- "FLAGGER AHEAD SYMBOL" SIGN (W20-7) SHALL BE USED WHEN A FLAGGER IS PRESENT, AND REMOVED WHEN NOT APPLICABLE.
- THE CONTRACTOR SHALL INSTALL, MAINTAIN, AND REMOVE ALL SIGNS IN ACCORDANCE WITH THE DETAILS OF AND AT THE LOCATIONS SHOWN IN THE PLANS. SIGNS INSTALLED BY THE DEPARTMENT OF ROADS OR OTHER GOVERNMENT AGENCY SHALL BE MAINTAINED AND REMOVED BY THEIR FORCES.
- G20-1 "ROAD WORK NEXT X MILES" SHALL BE USED ON ANY CONSTRUCTION OR MAINTENANCE PROJECT LONGER THAN 2 MILES.
- WHEN MESSAGE IS NOT PERTINENT, SIGNS SHALL BE TAKEN DOWN, COVERED OR FOLDED. TAPE IS NOT PERMITTED ON THE FACE OF THE SIGN.
- VEHICLES OR EQUIPMENT SHALL NOT BE PARKED SO AS TO OBSCURE OR DISTRACT FROM TRAFFIC CONTROL DEVICES.
- ORANGE FLAGS MAY BE USED TO CALL ATTENTION TO WARNING SIGNS.
- CULVERT, BRIDGE AND STEEP SLOPE DELINEATION. EXISTING GUARDRAIL SHOULD REMAIN IN PLACE AS LONG AS PRACTICAL FOR THE PROTECTION IT PROVIDES, AND REINSTALLED AS SOON AS PRACTICAL.
- TA-1 AND TA-3 FOR SHORT-DURATION OPERATIONS 60 MINUTES OR LESS, ALL SIGNS AND CHANNELIZING DEVICES MAY BE ELIMINATED IF A VEHICLE WITH AN ACTIVATED HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING OR AMBER STROBE LIGHTS ARE USED, AND THE WORK DOES NOT ENCRDACH INTO THE OPEN TRAVEL LANE.
- TA-1 AND TA-3 WHEN PAVED SHOULDERS HAVING A WIDTH OF 8 FEET OR MORE ARE CLOSED, AT LEAST ONE ADVANCE WARNING SIGN SHALL BE USED. IN ADDITION, CHANNELIZING DEVICES SHALL BE USED TO CLOSE THE SHOULDER IN ADVANCE TO DELINEATE THE BEGINNING OF THE WORK SPACE AND DIRECT VEHICULAR TRAFFIC TO REMAIN WITHIN THE TRAVELED WAY.
- TA-4 VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING OR AMBER STROBE LIGHTS.
- TA-10 IF THE QUEUING OF VEHICLES ACROSS ACTIVE RAILROAD TRACKS CANNOT BE AVOIDED, A FLAGGER SHALL BE PROVIDED AT THE RAILROAD CROSSING TO PREVENT VEHICLES FROM STOPPING WITHIN THE RAILROAD CROSSING EVEN IF AUTOMATIC WARNING DEVICES ARE IN PLACE.
- TA-14 WHEN THE HAUL ROAD IS NOT IN USE, TYPE III BARRICADES SHALL BE IN PLACE. THE "FLAGGER", "SIGNAL AHEAD", AND "BE PREPARED TO STOP" SIGNS SHALL BE COVERED OR REMOVED, AND THE TRAFFIC SIGNAL SHALL BE PUT INTO FLASH YELLOW ON THE HIGHWAY, RED ON THE HAUL ROAD.
- TA-14 THE "NO PASSING" SIGNS (R4-1-24 AND W14-3-48) AND PAVEMENT MARKINGS ARE NOT REQUIRED IF HAULING OPERATION IS IN EFFECT ONLY DURING DAYLIGHT HOURS.
- APPLICATIONS SHOWN ARE FOR LOCAL SITUATIONS IN PROPERLY MARKED CONSTRUCTION ZONES AND DO NOT INCLUDE LEAD SIGNS WHICH ARE INSTALLED AT THE BEGINNING OF THE PROJECT.
- THE LEAD SIGNS ARE NOT NEEDED IF TWO PROJECTS ARE LESS THAN 1 MILE APART. THE "END CONSTRUCTION" SIGN (G20-2B-48) SHOULD NOT BE INSTALLED BETWEEN THE PROJECTS.
- REFER TO STANDARD PLAN 920 FOR GENERAL INFORMATION NOT SHOWN.
- A MINIMUM OF 7-36" OR 42" CONES SHALL BE PLACED ON THE CENTERLINE IN ADVANCE OF THE FLAGGER. THE CONES SHOULD BE SPACED AT 250 FEET.
- THE SPEED IN FLAGGING/PILOT CAR OPERATIONS IS GENERALLY CONTROLLED BY THE PILOT CAR, A SPEED REDUCTION MAY NOT BE NECESSARY IF THE WORK ZONE CONDITIONS WILL NOT EXIST UPON COMPLETION OF EACH DAYS WORK. W3-5 SIGN IS NOT NEEDED IF SPEED LIMIT IS NOT REDUCED.



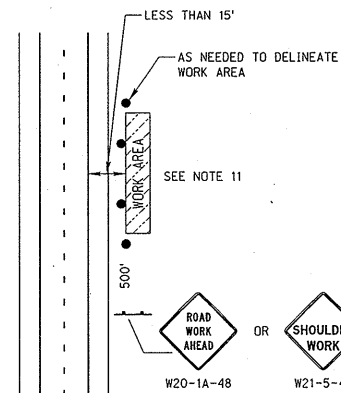
CULVERT DELINEATION

WHEN GUARDRAIL IS REMOVED AND/OR EXCAVATION IS LESS THAN 15 FEET FROM EDGE OF TRAVELED WAY



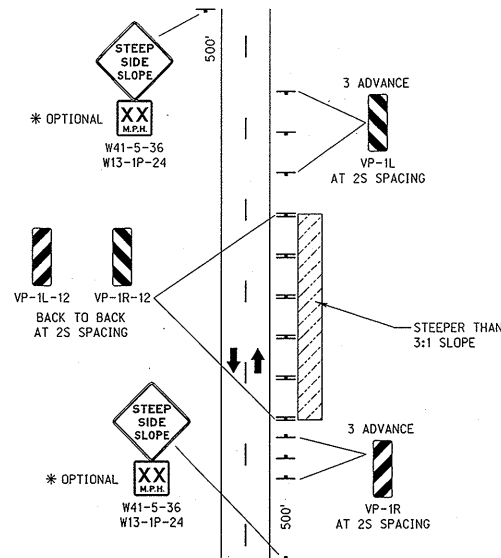
BRIDGE RAIL END DELINEATION

WHEN GUARDRAIL IS REMOVED



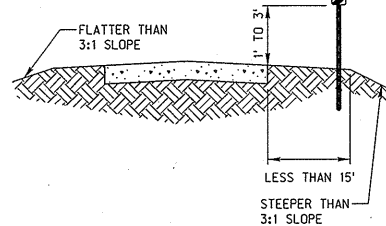
WORK BEYOND THE SHOULDER

TA-1



STEEP SLOPE DELINEATION

VERTICAL PANELS SHOULD BE USED FOR AREAS WHERE GUARDRAIL IS REMOVED, OR PROJECT GRADING HAS CREATED A FORESLOPE STEEPER THAN 3:1, AND WITHIN 15 FEET OF THE TRAVELED WAY. NOT USED FOR CULVERT OR BRIDGE END DELINEATION. VERTICAL PANEL SPACING MAY BE REDUCED FOR HORIZONTAL CURVES. CONES/DRUMS MAY BE USED AS A SUBSTITUTE WHEN APPROVED BY THE ENGINEER.



LEGEND

- FLAGGER
- REFLECTORIZED PLASTIC DRUM
- REFLECTORIZED PLASTIC DRUM OR 42" CONE
- TYPE III BARRICADE
- SINGLE POSTED SIGN
- DOUBLE POSTED SIGN
- TRAFFIC SIGNAL

TAPER FORMULA

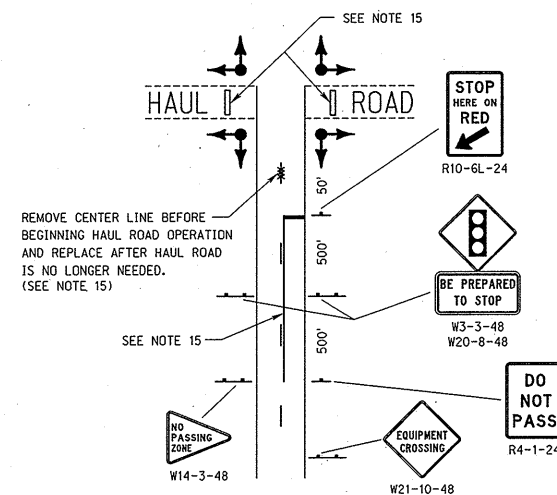
$$L = S \times W \text{ FOR SPEEDS OF 45 MPH OR MORE.}$$

$$L = \frac{WS^2}{60} \text{ FOR SPEEDS OF 40 MPH OR LESS.}$$

WHERE:
L = MINIMUM LENGTH OF TAPER.
S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK.
W = WIDTH OF OFFSET (LANE WIDTH).

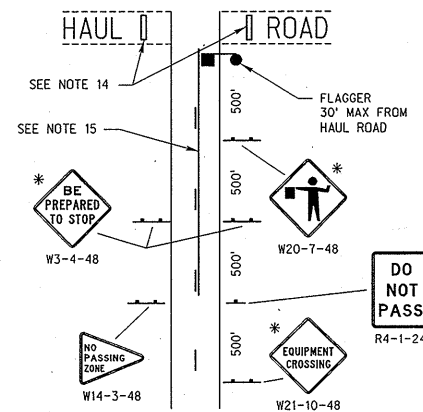
MOBILE OPERATION ON SHOULDER

NO ENCRDACHMENT ON TRAVEL LANE
TA-4



HAUL ROAD CROSSING IN CONSTRUCTION AREA USING TEMPORARY TRAFFIC SIGNAL

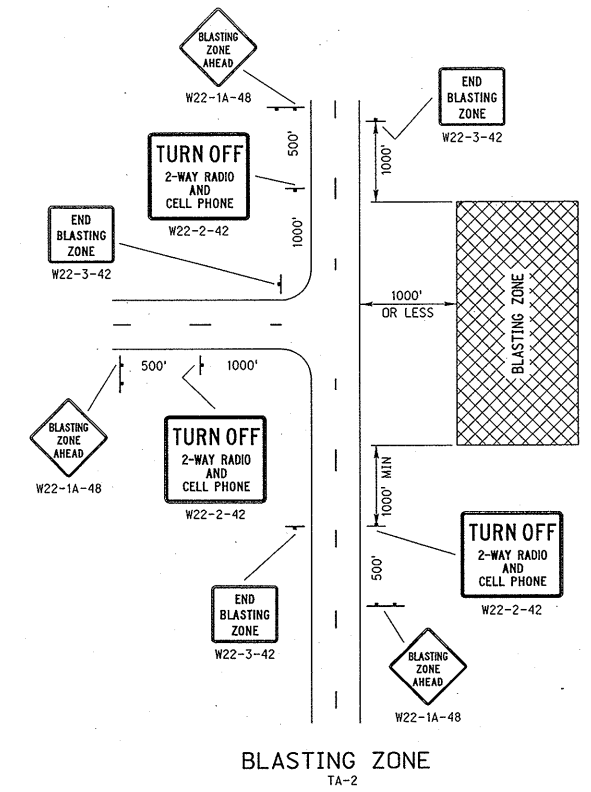
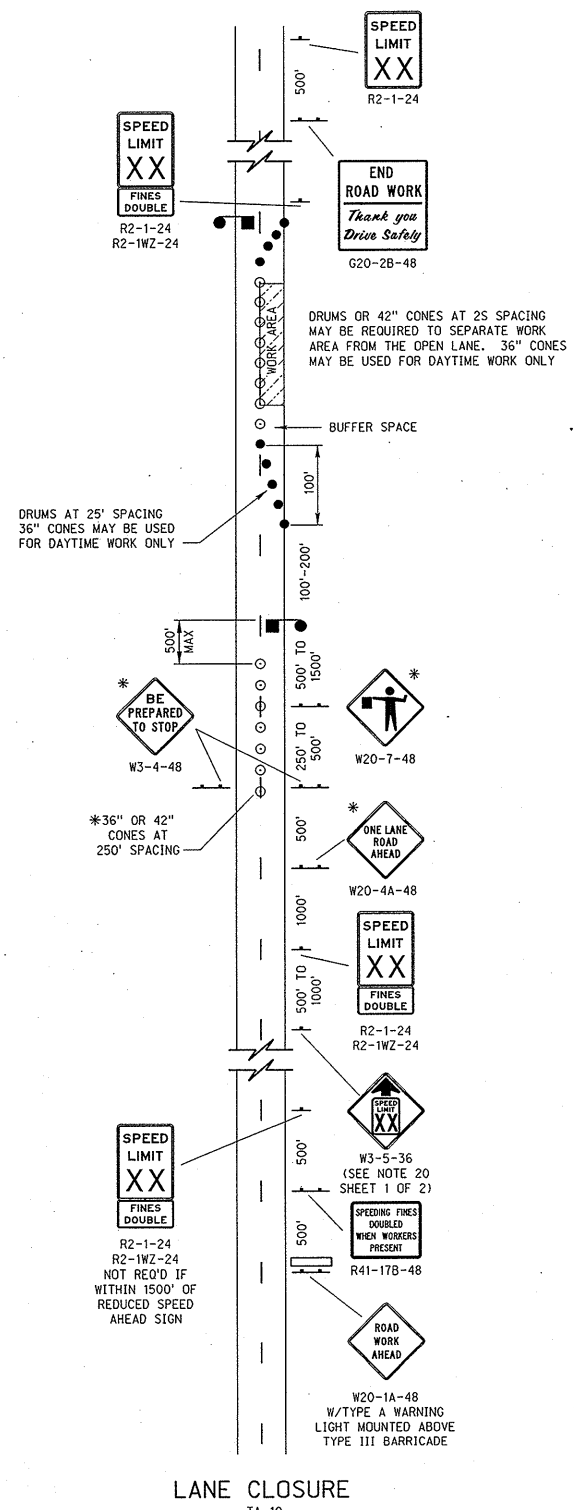
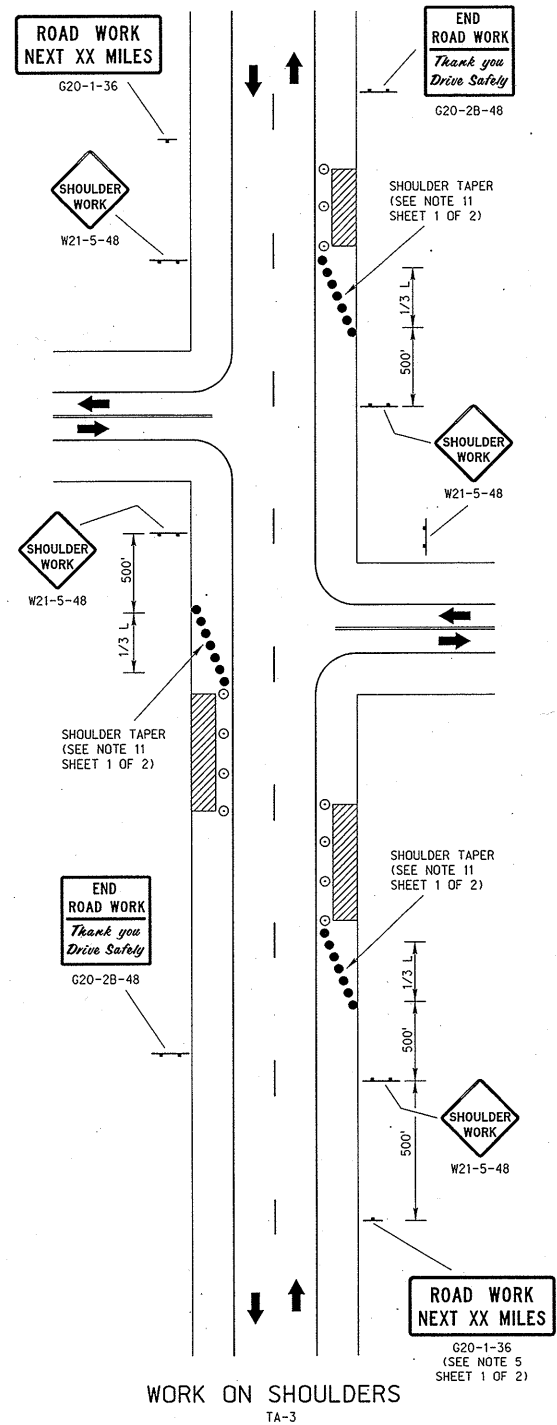
TA-14



HAUL ROAD CROSSING IN CONSTRUCTION AREA USING FLAGGERS

TA-14
* SIGNS ARE SUBSIDIARY TO THE FLAGGING OPERATION.

| R8 | JAN 18 | NDOR BORDER TO NDOT BORDER |
|---|--------|---|
| R7 | JAN 17 | ADD CONES ON CENTERLINE |
| R6 | JUN 14 | 2009 MUTCD UPDATE |
| REV. NO. | DATE | DESCRIPTION OF REVISION |
| NEBRASKA DEPARTMENT OF TRANSPORTATION STANDARD PLAN NO. 921-R8 TRAFFIC CONTROL, CONSTRUCTION AND MAINTENANCE | | |
| ACCEPTED BY FHWA FOR USE ON THE NATIONAL HIGHWAY SYSTEM: | | |
| | | 9-1-2017 DATE ORIGINAL: JUNE 3, 1980 DATE |
| | | 1 2 |



LEGEND

- FLAGGER
- REFLECTORIZED PLASTIC DRUM
- REFLECTORIZED PLASTIC DRUM OR 42" CONE
- TYPE III BARRICADE
- SINGLE POSTED SIGN
- DOUBLE POSTED SIGN
- TRAFFIC SIGNAL

TAPER FORMULA

$L = S \times W$ FOR SPEEDS OF 45 MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40 MPH OR LESS.

WHERE:

- L = MINIMUM LENGTH OF TAPER.
- S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK.
- W = WIDTH OF OFFSET (LANE WIDTH).

| REV. NO. | DATE | DESCRIPTION OF REVISION |
|----------|--------|----------------------------|
| R8 | JAN 18 | NDOR BORDER TO NDOT BORDER |
| R7 | JAN 17 | ADD CONES ON CENTERLINE |
| R6 | JUN 14 | 2009 MUTCD UPDATE |

NEBRASKA DEPARTMENT OF TRANSPORTATION
STANDARD PLAN NO. 921-R8
**TRAFFIC CONTROL,
CONSTRUCTION AND MAINTENANCE**

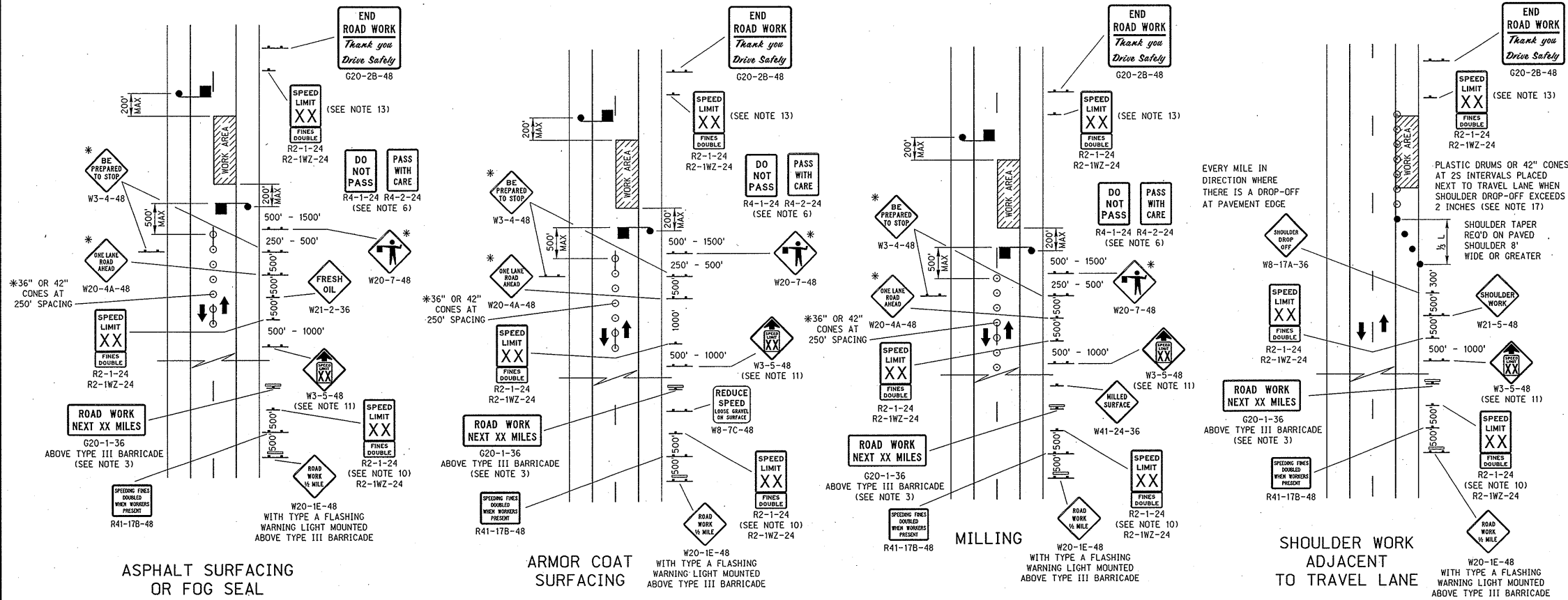
ACCEPTED BY FHWA FOR USE ON THE
NATIONAL HIGHWAY SYSTEM:

DANIEL J. WADDLE
E-6289
STATE OF NEBRASKA

9-1-2017
DATE

ORIGINAL:
JUNE 3, 1980
DATE

2
2



* SIGNS AND CONES ARE SUBSIDIARY TO THE FLAGGING OPERATION.

GENERAL NOTES

- SIGNS SHOWN ARE USUALLY FOR ONE DIRECTION OF TRAVEL ONLY.
- "FLAGGERS AHEAD SYMBOL" SIGN (W20-7-48) SHALL BE USED WHEN A FLAGGER IS PRESENT, AND REMOVED WHEN NOT APPLICABLE.
- G20-1 "ROAD WORK NEXT XX MILES" SHALL BE USED ON ANY CONSTRUCTION OR MAINTENANCE PROJECT LONGER THAN 2 MILES.
- WHEN MESSAGE IS NOT PERTINENT, SIGNS SHALL BE TAKEN DOWN, COVERED OR FOLDED. TAPE WILL NOT BE PERMITTED ON THE FACE OF THE SIGN.
- ORANGE FLAGS MAY BE USED TO CALL ATTENTION TO THE ADVANCE WARNING SIGNS.
- "DO NOT PASS" AND "PASS WITH CARE" SIGNS WILL BE INSTALLED AT THE BEGINNING AND ENDING OF EACH "NO PASSING" ZONE WHERE PAVEMENT HAS NOT BEEN MARKED. FOR ROADWAYS WITH ADTs OF 2,000 VEHICLES PER DAY OR LESS, THE TIME PERIOD BETWEEN COMPLETION OF THE WORK AND PLACEMENT OF THE PAVEMENT MARKINGS SHALL NOT EXCEED TWO WEEKS. FOR ROADWAYS WITH ADTs GREATER THAN 2,000 VEHICLES PER DAY, THE TIME PERIOD SHALL NOT EXCEED THREE CALENDAR DAYS, CONDITIONS PERMITTING.
- WHERE TRAFFIC QUEUES ARE LONG AND FLAGGER VISIBILITY IS LIMITED, THE ENGINEER MAY REQUIRE AN ADDITIONAL FLAGGER.
- "MILLED SURFACE" SIGN (W41-24) IS NOT REQUIRED FOR MILLED SURFACES LESS THAN 1000 FEET IN LENGTH OR FOR MILLED SURFACES THAT ARE NOT BEING OVERLAID WITH THE PROJECT.
- "NO PASSING ZONES NOT MARKED" SIGN (W25-6-48) SHOULD BE INSTALLED AT EACH END OF THE PROJECT WHENEVER THE EXISTING NO PASSING ZONE PAVEMENT MARKINGS HAVE BEEN REMOVED OR COVERED AND NO PASSING ZONE PAVEMENT MARKINGS ARE NOT INCLUDED IN THE PROJECT.
- SPEED LIMIT SIGN IS NOT REQUIRED IF WITHIN 1500 FT OF A REDUCED SPEED AHEAD SIGN.
- THE SPEED IN FLAGGING/PILOT CAR OPERATIONS IS GENERALLY CONTROLLED BY THE PILOT CAR, A SPEED REDUCTION MAY NOT BE NECESSARY IF THE WORK ZONE CONDITIONS WILL NOT EXIST UPON COMPLETION OF EACH DAY'S WORK. W3-5 SIGN IS NOT NEEDED IF SPEED LIMIT IS NOT REDUCED.

- WORK ZONE SPEED LIMITS SHALL NOT BE INSTALLED WITHOUT A SPEED ZONE AUTHORIZATION COMPLETED BY THE DEPARTMENT. THE WORK ZONE SPEED LIMIT SHALL BE ESTABLISHED ACCORDING TO DOR-OI 60-18. SEE WORK ZONE SPEED LIMIT NOTES ON STANDARD PLAN 920.
- A SPEED LIMIT SIGN ENDING THE REDUCED SPEED ZONE SHALL BE INSTALLED AT THE END OF EACH ZONE.
- IF THE QUEUING OF VEHICLES ACROSS ACTIVE RAILROAD TRACKS CANNOT BE AVOIDED, A FLAGGER SHALL BE PROVIDED AT THE RAILROAD CROSSING TO PREVENT VEHICLES FROM STOPPING WITHIN THE RAILROAD CROSSING EVEN IF AUTOMATIC WARNING DEVICES ARE IN PLACE. AT NO TIME, WILL THE QUEUE FROM A FLAGGING OPERATION EXTEND ACROSS A RAILROAD CROSSING.
- EARLY COORDINATION WITH THE RAILROAD COMPANY SHOULD OCCUR BEFORE WORK STARTS.
- THE "DO NOT STOP ON TRACKS" SIGN SHOULD BE USED ON ALL APPROACHES TO A HIGHWAY-RAIL GRADE CROSSING WITHIN THE LIMITS OF A TEMPORARY TRAFFIC CONTROL ZONE.
- PLACE TYPE II BARRICADES, REFLECTORIZED PLASTIC DRUMS, OR 42" CONES ON THE TRAFFIC SIDE OF THE DROP-OFF WHERE SUFFICIENT LATERAL DISTANCE EXISTS BETWEEN THE TRAVEL LANE AND THE DROP-OFF (DROP-OFF DETAIL ON SHEET 2).
- THE LEAD SIGNS ARE NOT NEEDED IF TWO PROJECTS ARE LESS THAN 1 MILE APART. THE "END CONSTRUCTION" SIGN (G20-28-48) SHOULD NOT BE INSTALLED BETWEEN THE PROJECTS.
- ON ARMOR COAT SURFACING, A "LOOSE GRAVEL" SIGN (W8-7-36) IS REQUIRED AT THE BEGINNING OF THE DAYS WORK AND SHALL REMAIN IN PLACE UNTIL THE LOOSE GRAVEL HAS BEEN SWEEPED OFF.
- SIGN SIZES SHOWN ARE FOR TYPICAL SITUATIONS- REFER TO NEBRASKA SUPPLEMENT TO THE MUTCD FOR FURTHER SIZE INFORMATION.
- REFER TO STANDARD PLAN 920 FOR GENERAL INFORMATION NOT SHOWN.
- A MINIMUM OF 7-36" OR 42" CONES SHALL BE PLACED ON CENTERLINE IN ADVANCE OF THE FLAGGER. THE CONES SHOULD BE SPACED AT 250 FEET.

LEGEND

- FLAGGER
- REFLECTORIZED PLASTIC DRUM
- REFLECTORIZED PLASTIC DRUM OR 42" CONE
- TYPE III BARRICADE
- SINGLE POSTED SIGN
- DOUBLE POSTED SIGN

TAPER FORMULA

L = S x W FOR SPEEDS OF 45 MPH OR MORE.

L = $\frac{WS^2}{60}$ FOR SPEEDS OF 40 MPH OR LESS.

WHERE:

L = MINIMUM LENGTH OF TAPER.

S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK.

W = WIDTH OF OFFSET (LANE WIDTH).

- LOOSE GRAVEL
W8-7-36
WHERE REQUIRED BY THE ENGINEER
- FRESH OIL
W21-2-36
IF USED, PLACE PRIOR TO FLAGGING SIGNS
- *OPTIONAL
BUMP
500 FT
W13-1P-24
W8-1B-36
- *OPTIONAL
BUMP
500 FT
W13-1P-24
W8-1A-36
- SHOULDER DROP-OFF
W8-17A-36
EVERY MILE WHERE THERE IS A DROP-OFF AT TRAVEL EDGE OR SHOULDER EDGE
- UNEVEN LANES
W8-11-36
EVERY MILE WHERE REQ'D
- NO PASSING ZONES NOT MARKED
W25-6-48
W7-3AP-24
(SEE NOTE 9)
- NEW ASPHALT SUPPLY WHEN WET
W8-5-36
W8-5A-54
SIGNS INSTALLED AND MAINTAINED BY OTHERS AS PER MATERIALS AND RESEARCH DIVISION POLICY

ADDITIONAL SIGNS
USE WHERE APPLICABLE

| | | |
|----------|--------|----------------------------|
| R11 | JAN 18 | NDOR BORDER TO NDOT BORDER |
| R10 | JAN 17 | ADD CONES TO CENTERLINE |
| R9 | JUN 14 | 2009 MUTCD UPDATES |
| REV. NO. | DATE | DESCRIPTION OF REVISION |

NEBRASKA DEPARTMENT OF TRANSPORTATION
STANDARD PLAN NO. 922-R11

**TRAFFIC CONTROL
FOR ASPHALT SURFACING**

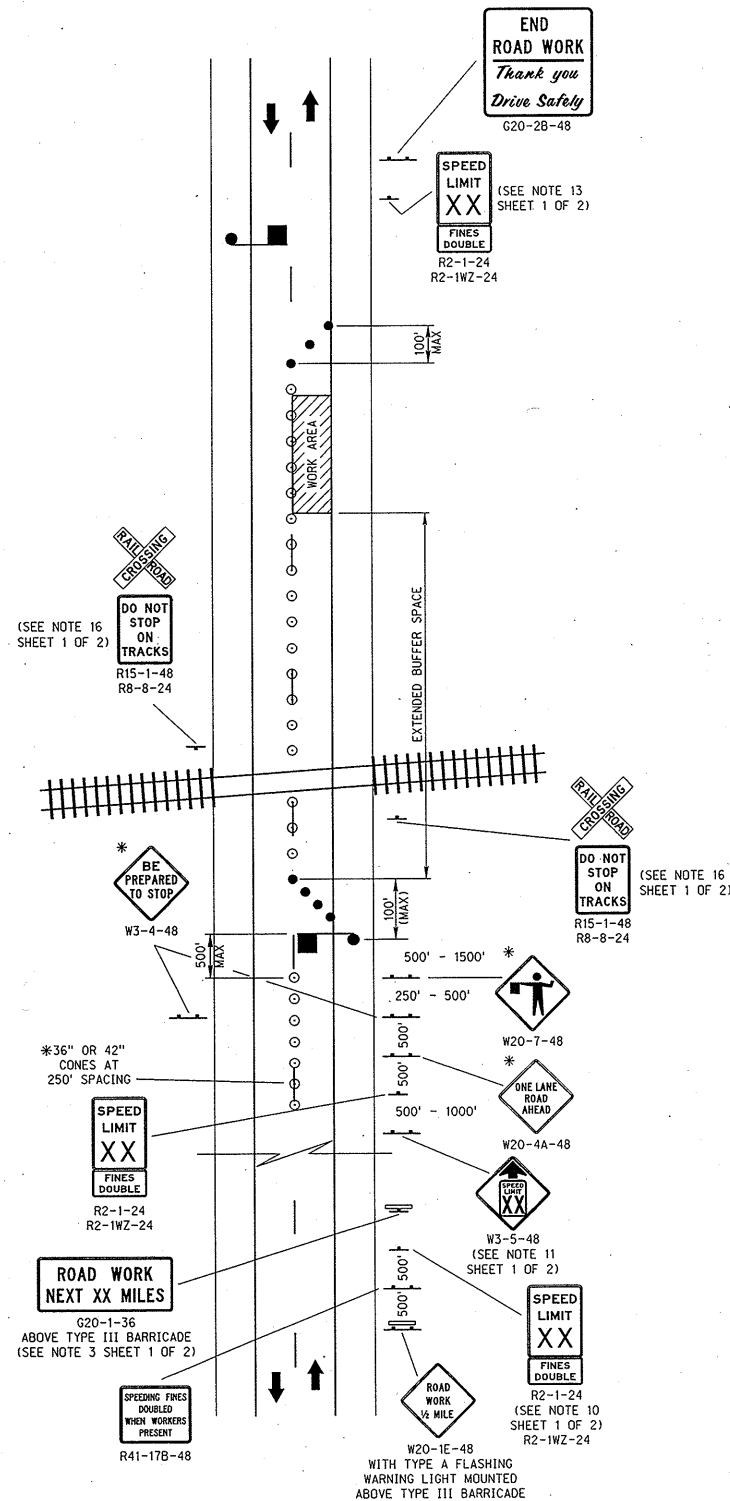
ACCEPTED BY FHWA FOR USE ON THE
NATIONAL HIGHWAY SYSTEM:

David May
8-16-2017
DATE

DANIEL J. WADDLE
E-6289
7-15-17
STATE OF NEBRASKA

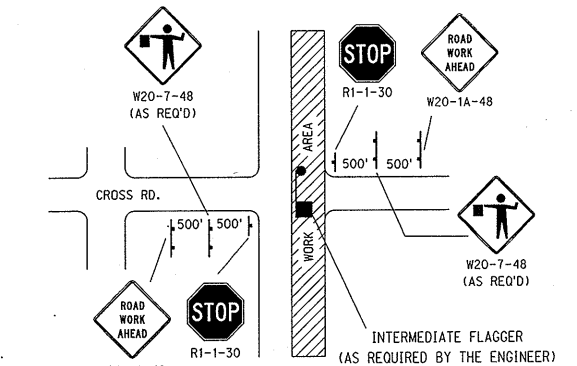
ORIGINAL:
JUNE 3, 1980
DATE

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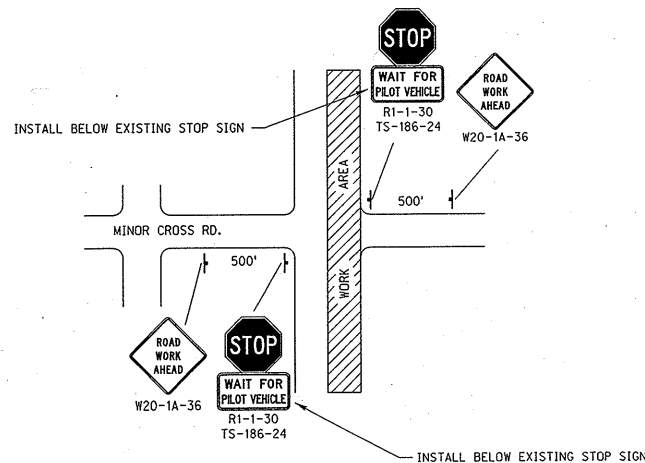


WORK IN VICINITY OF RAILROAD CROSSING

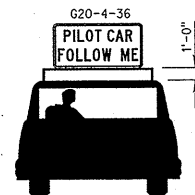
* SIGNS AND CONES ARE SUBSIDIARY TO THE FLAGGING OPERATION.



MINOR OR MAJOR CROSS ROAD WITH FLAGGER

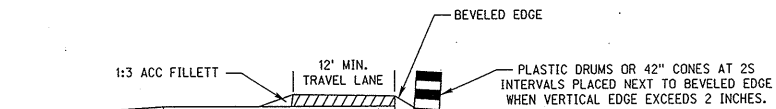


MINOR CROSS ROAD NO FLAGGER WITH PILOT CAR OPERATION

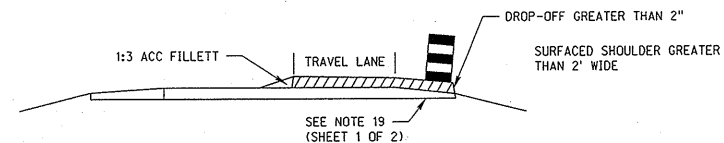


THE BOTTOM OF THE SIGN SHALL BE MOUNTED A MINIMUM OF 1 FOOT ABOVE THE VEHICLE'S ROOF. THE SIGN SHALL BE SECURELY COVERED OR REMOVED WHEN NOT IN USE.

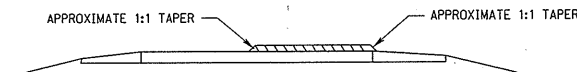
PILOT CAR SIGN



BEVELED EDGE



DROP-OFF GREATER THAN 2 INCHES



DROP-OFF 2 INCHES AND LESS

LEGEND

- FLAGGER
- REFLECTORIZED PLASTIC DRUM
- REFLECTORIZED PLASTIC DRUM OR 42" CONE
- TYPE III BARRICADE
- SINGLE POSTED SIGN
- DOUBLE POSTED SIGN

TAPER FORMULA

$$L = S \times W \text{ FOR SPEEDS OF 45 MPH OR MORE.}$$

$$L = \frac{WS^2}{60} \text{ FOR SPEEDS OF 40 MPH OR LESS.}$$

WHERE:

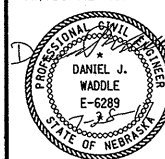
L = MINIMUM LENGTH OF TAPER.
S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK.
W = WIDTH OF OFFSET (LANE WIDTH).

| R11 | JAN 18 | NDOR BORDER TO NDOT BORDER |
|----------|--------|----------------------------|
| R10 | JAN 17 | ADD CONES TO CENTERLINE |
| R9 | JUN 14 | 2009 MUTCD UPDATES |
| REV. NO. | DATE | DESCRIPTION OF REVISION |

NEBRASKA DEPARTMENT OF TRANSPORTATION
STANDARD PLAN NO. 922-R11

TRAFFIC CONTROL FOR ASPHALT SURFACING

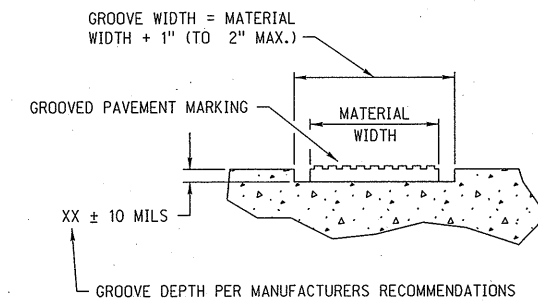
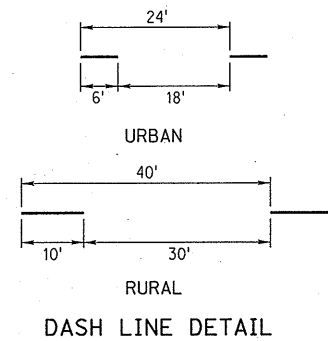
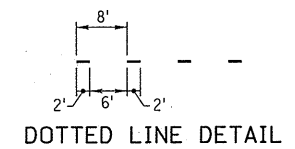
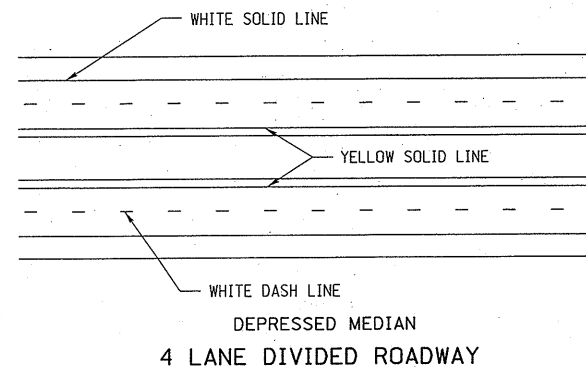
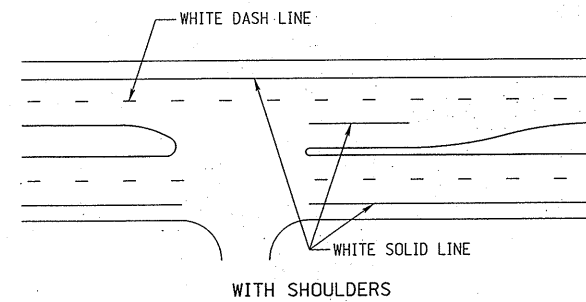
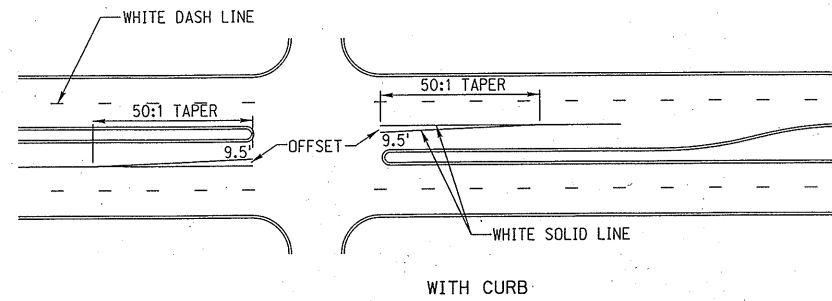
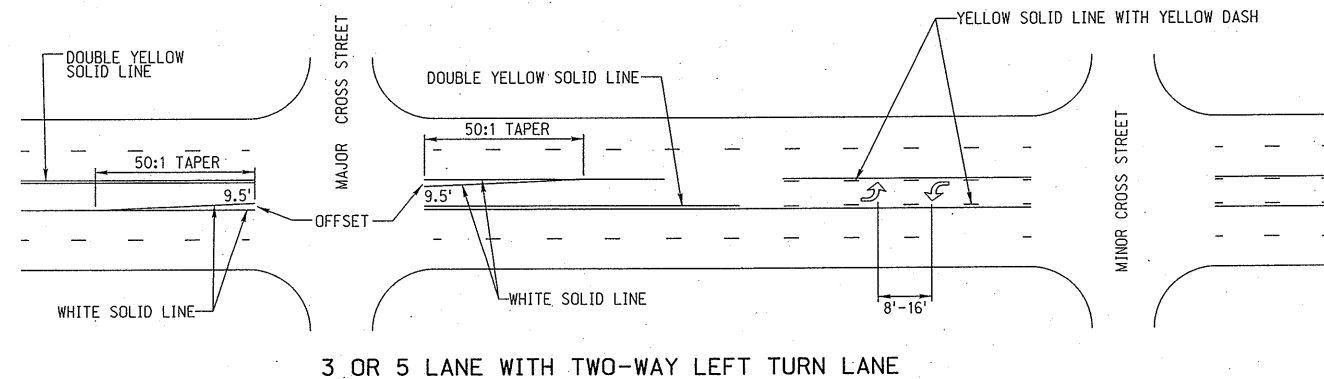
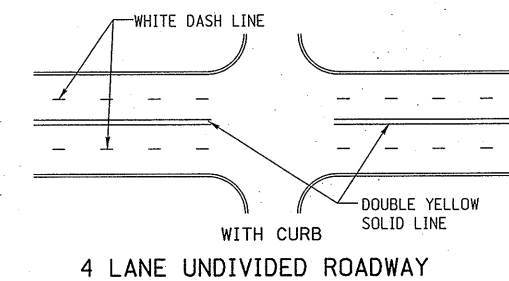
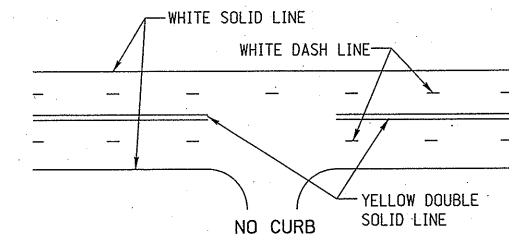
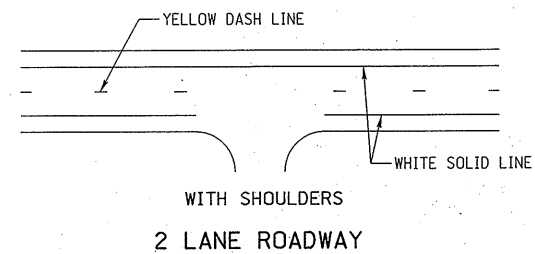
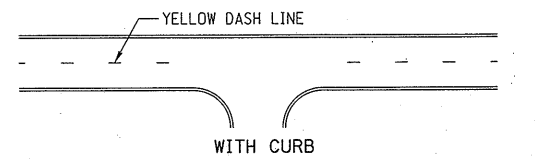
ACCEPTED BY FHWA FOR USE ON THE NATIONAL HIGHWAY SYSTEM:



8-16-2017
DATE

ORIGINAL:
JUNE 3, 1980
DATE

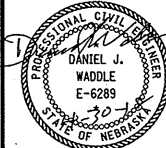

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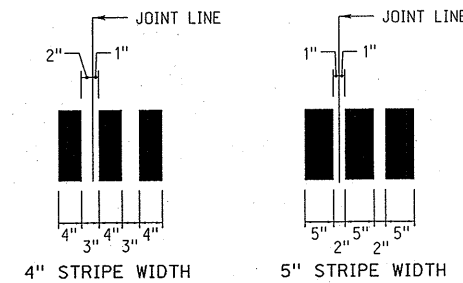
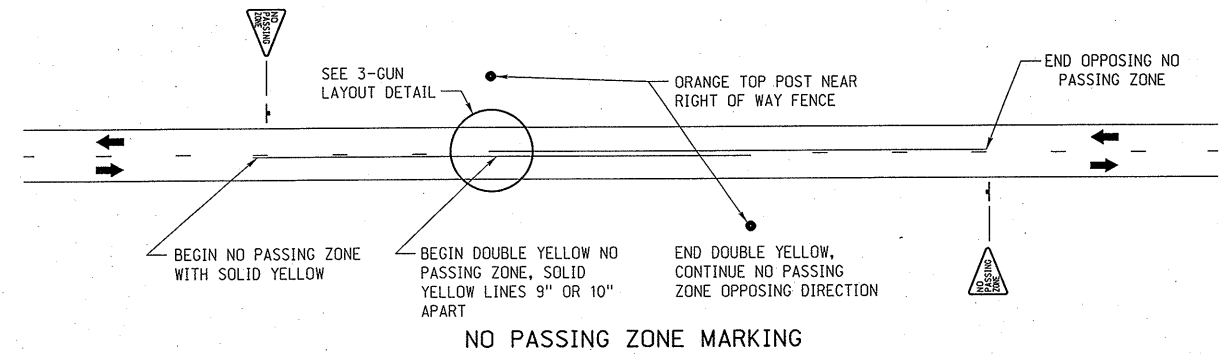
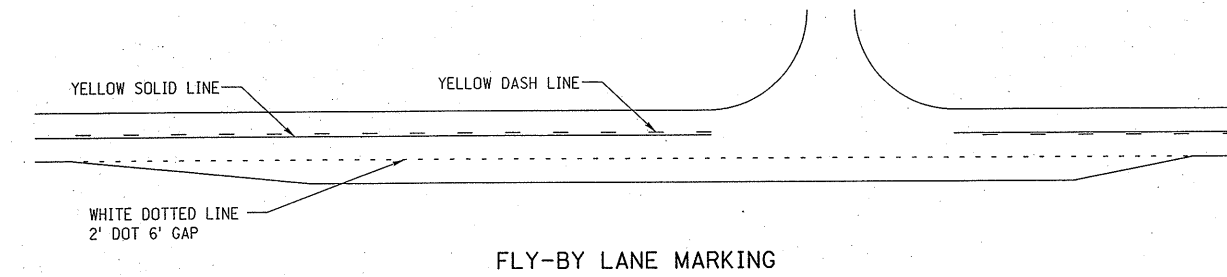
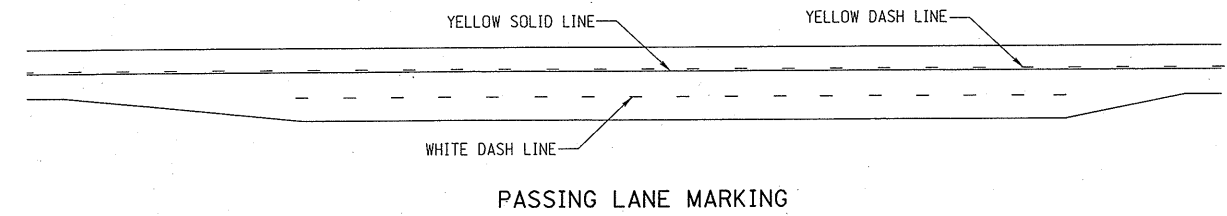
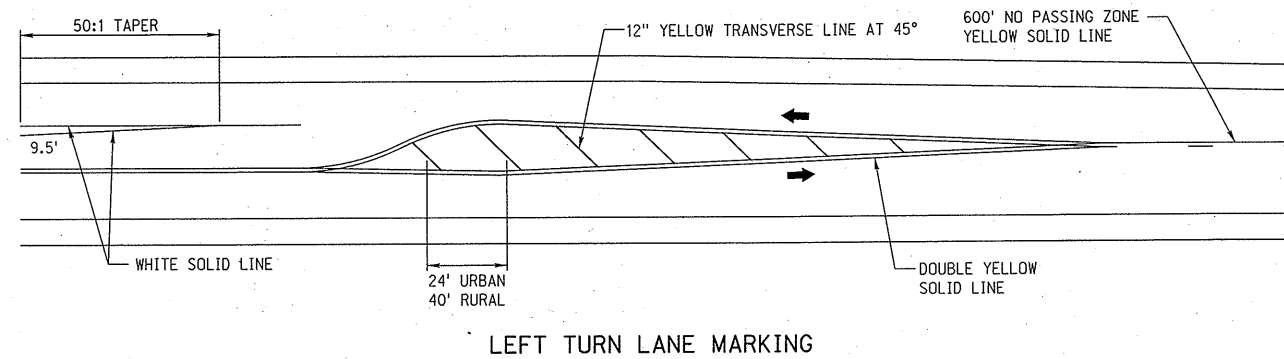
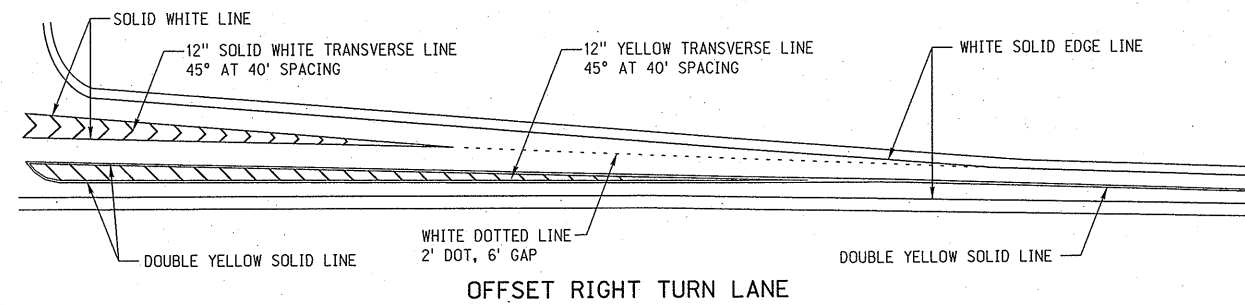
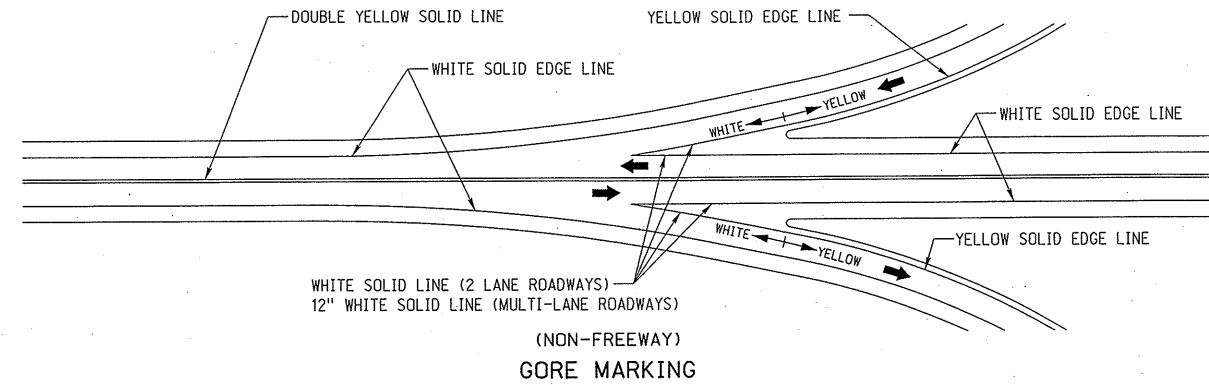


PERMANENT PAVEMENT MARKINGS
INSTALLED IN GROOVES

| 2-LANE ROADWAY REQUIRED LOCATION FOR EDGE LINES | | |
|--|---------------|--|
| ROADWAY WIDTH | SHOULDER TYPE | DISTANCE FROM CENTERLINE OF ROADWAY TO OUTSIDE EDGE OF PAVEMENT EDGELINE |
| LESS THAN 24 FT | SURFACED | 12 FT 0 IN |
| LESS THAN 24 FT | EARTH | PAVEMENT EDGE |
| 24 FT | EARTH | PAVEMENT EDGE |
| 24 FT | SURFACED | 12 FT 0 IN |
| GREATER THAN 24 FT | EARTH | 12 FT 0 IN |

CENTERLINE MARKING SHALL BE PLACED ON THE "SOUTH" SIDE OF THE CENTER JOINT ON EAST-WEST ROADS AND ON THE "EAST" SIDE OF THE CENTER JOINT ON NORTH-SOUTH ROADS

| | | |
|---|------|--|
| REV. NO. | DATE | DESCRIPTION OF REVISION |
| | | |
| NEBRASKA DEPARTMENT OF ROADS STANDARD PLAN NO. 941 PAVEMENT MARKING | | |
| ACCEPTED BY FHWA FOR USE ON THE NATIONAL HIGHWAY SYSTEM: | | |
|  DANIEL J. WADDE E-6289 STATE OF NEBRASKA | |  MARY BURROUGHS 5/14/2018 DATE |
| ORIGINAL: OCT. 2018 DATE | | 1 2 |



LEGEND

→ TRAFFIC FLOW

| REV. NO. | DATE | DESCRIPTION OF REVISION |
|--|------|---|
| | | |
| NEBRASKA DEPARTMENT OF ROADS STANDARD PLAN NO. 941 PAVEMENT MARKING | | |
| ACCEPTED BY FHWA FOR USE ON THE NATIONAL HIGHWAY SYSTEM: | | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;"> </div> |
| <div style="display: flex; justify-content: space-between;"> <div> <p>DANIEL J. WADDLE E-6289 30 STATE OF NEBRASKA</p> </div> <div> <p>MARY BURROUGHS 5/14/18 DATE</p> </div> </div> | | |
| ORIGINAL: OCT. 2018 DATE | | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;"> 2 2 </div> |